# THE OIL WEEKLY

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## The Oil Man's Calendar

| | |
|---|---|
| **SEPT.** | |
| **8–12** | **American Chemical Society, Atlantic City.** |
| **17–19** | **National Petroleum Association, Atlantic City.** |
| **OCT.** | |
| **2– 4** | **West Virginia Oil & Natural Gas Association, Clarksburg.** |
| **6– 9** | **National Safety Congress, Chicago.** |
| **9–11** | **Texas Mid-Continent Oil & Gas Association, Beaumont.** |
| **16–17** | **American Association of Petroleum Geologists, Pacific Section, Los Angeles.** |
| **16–18** | **American Institute of Mining & Metallurgical Engineers, Petroleum Division, Dallas.** |
| **20–22** | **National Stripper Well Association, Tulsa.** |
| **20–22** | **Independent Petroleum Association of America, Tulsa.** |
| **30–31** | **American Institute of Mining & Metallurgical Engineers, Petroleum Division, Los Angeles.** |
| **31** | **California Natural Gasoline Association, Los Angeles.** |
| **NOV.** | |
| **2– 7** | **American Petroleum Institute, Annual Meeting, San Francisco.** |
| **DEC.** | |
| **3** | **New Mexico Oil & Gas Association, Artesia.** |
| **5** | **Oklahoma Stripper Well Association, Tulsa.** |

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# A MESSAGE TO OUR INDUSTRY

**The Oil Industry has heard much recently of probable shortages of materials for the manufacture of the equipment it needs to carry on. Talk still goes the rounds in the field about depleted stocks in the near future. Feeling approaching alarm is evidenced in scattered cases. Buyers have poured in orders to the extent that the oil country equipment business has assumed somewhat boom proportions. Back-logging of orders has resulted, making the situation appear more justified than actually it may be.**

**It would be regrettable for any trade to use our National Defense Program as a means of boosting business. For one thing there would be little to gain individually since all recognized manufacturers and suppliers would, in the main, share alike in any resulting upturn.**

**We would like to go on record as *not* being a part of . . . nor in sympathy with . . . this type of business stimulus. It is true that a large percentage of Larkin's production facilities, like those of so many others, are tied up in National Defense work, but we still have ample materials to continue supplying the oil industry with Larkin Products . . . and ample production facilities to turn them out. The quality of Larkin materials has not been changed; nor has the quality of Larkin workmanship. Our service to our country is not altering our service to the industry responsible for our success.**

J. J. Larkin

LARKIN

# The Changing Panorama

## Gulf Coast Refiners Fear Market Loss

**Independents feel squeeze of tanker shortage and federal price control**

There is a noticeable absence of happiness on the part of some independent refiners in the Gulf Coast area over the chain of circumstances brought about by the war and tanker diversions. Without making any accusations, some of them shake their heads when they point to the following chain of historical events:

Two companies, Standard Oil Company of New Jersey and Shell Oil Company, are recipients of large contracts from Britain for South American oil.

To move this oil it has been necessary to divert tankers which not only belong to the two companies mentioned (who will, of course, receive compensation for the use of these tankers), but tankers which belong to other oil companies, large and intermediate, not participating in the South American oil sale, as well as tankers which have been made available to independent refiners in the past.

To offset the dire straits in which strictly independent refiners would find themselves as a result of the deep cut in tanker bottoms, Standard Oil Company of New Jersey has come to the rescue of the independent refiners and is taking the surplus products of those refiners in a manner satisfactory to them.

However — and here comes the rub — some of the refiners are beginning to wonder where they will be when this situation is cleared up. They say that they are losing their markets on the Atlantic seaboard to their principal competitors, one of whose main arguments has always been stability of supply, and that when the tanker situation had readjusted itself, the independent refiners will find themselves faced with the tedious and difficult job of building new markets all over again.

On top of this the independent refiners do not like the recent telegram from Leon Henderson of OPACS putting a ceiling of 6 cents per gallon on 80 - research - octane gasoline. As a matter of fact, refiners who are not to be classified as independent refiners are not pleased with the telegram either because they say that they have contracts already made for such gasoline at a higher price than the OPACS head thinks reasonable.

In this respect they disagree somewhat with the statement of the independent refiners who say that a ceiling on refined products is harmful only to the independents and reacts to the advantage of competitors. It is possible that the Gulf Coast Refiners Association may revise their statement by saying that the ceiling reacts to the advantage of some competitors.

A telegram during the past week from the Gulf Coast Refiners Association addressed to Henderson asks for an immediate hearing at which the refiners will "gladly give you facts and point out factors which should be taken into account, such as (1) cost of crude, blending materials and anti-knock agents, (2) transportation, (3) prices of products other than gasoline, (4) competitive factors, (5) rising maintenance and labor costs, (6) loss of export markets of independents, (7) negligible effect of prices obtained by independents on retail prices, and (8) differentials in volume sales and specifications. Ruinous prices of last year, far below cost, are extremely unfair basis of comparison to present prices."

### *Use for Silver . . .*

At last a use for the silver the United States government has been been buying at high prices from all over the world: "Silver may be used extensively for tin in solder to conserve tin and hasten accumulation of adequate reserves of it, a committee of the National Academy of Sciences advised OPM in a report made July 10," reports the official government organ "Defense." And then after the war, when it becomes necessary to salvage the silver to back up currency issued against it, we can have a "National Tin Can Contribution Week."

## Residual Fuel Getting Increasingly Scarce

**Refiners may need to step up runs to keep pace with growing demands**

Such a strong demand has developed for residual fuel oil that stocks have decreased 12 percent during the past year and now are about 13 million barrels lower than a year ago. With the national defense program entering a period of increased production, it is to be expected that additional material gains in demand for this product will be forthcoming.

It may become necessary for refiners to operate at higher levels in order to meet residual fuel consumption requirements. This could easily throw the gasoline supply out of balance with demand, for fuel oil cannot be made without making gasoline.

Territories east of the Rockies are particularly vulnerable in respect to residual oil supplies. California has a surplus. But it is in the eastern area that most of it is consumed. Now that tanker facilities have been crippled by diversion to England, the high cost of transportation is not the only prohibitive factor in moving the West Coast surplus to meet the East Coast shortage. Of about 92 million barrels of the product in shortage, only about 8 million barrels are located in the Eastern area.

If position of this fuel continues to become tighter, as it may despite efforts to offset it by increased importation from South America, it may be placed on a priority rating so certain users vital to the national defense effort may obtain necessary supplies.

### *Labor Supply . . .*

We believe that a reasonable interpretation of the report of a press conference given by Sidney Hillman, associate director general of OPM, and Arthur F. Fleming, on the new Labor Supply Branch, (and reported in the official paper, "Defense") indicates that it is proposed to encourage workmen to

## SHAKE-OUTS
### From The News

Business Week observes: *"Oil Coordinator Harold Ickes is attacking the oil problem with force and fury —and publicity."* Recent actions of the coordinator in attempting to conserve gasoline by forcing motorists to correct faulty motors and driving habits, according to this authority, has prompted one news reporter to wisecrack: *"What this situation needs is not a gasless Sunday, but a gasless Ickes."*

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Reports from Aruba state that printers' search for smudge-proof ink has been rewarded by a recent discovery of a base for such ink in certain Venezuelan crude oils. By regrouping certain hydrocarbons a synthetic plastic of bituminous resin is formed, which can be shipped in crystals to ink manufacturers and liquefied for use. Smudge-proof qualities are obtained by cooling. The drop in temperature when it is spread thin enough for printing is sufficient enough to form a hard coat.

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In contrast with the general upward tendencies of commodity prices, Standard Oil Company of New Jersey has reduced the price of its petroleum synthetic rubber from 85 to 70 cents a pound. The company's Baton Rouge synthetic rubber plant, recently completed, is operating at its designed capacity of 1800 tons annually, and additional plant construction is being rushed to double the output by early 1942.

»

A new kind of rubber, known as cellular rubber, has been developed that is twice as light as cork and has great resistance qualities against oil, water and acid.

»

Revolutionary designed 100,000-barrel capacity barges that could be towed behind ships, or if necessary propelled by their own Diesel engines, has been proposed as the cheapest and fastest way of solving the problem of transporting petroleum supplies from the Gulf Coast to the Atlantic Seaboard because of the transfer of tankers from this route to Great Britain. The craft would be cylindrical dirigible-shaped, about 400 feet long and 40 feet in diameter, would be 90 percent submerged, and could be built at the rate of one every four days at a cost of one seventh that of regulation tankers.

Originator of the idea is Erle P. Halliburton, president of Halliburton Oil Well Cementing Company and an oil operator. The Stephens Institute of New York currently is conducting tests with minature models, and Oil Coordinator Ickes has given his approval to the idea. Halliburton already is said to have an "AAA priority rating on steel" for manufacture of the craft, and is discussing construction problems with barge builders.

»

**During normal times, a tanker leaves a Gulf Coast port approximately every 1½ hours with about 3,600,000 gallons of petroleum or its products for the Atlantic Coast. An average tanker has a load capacity equivalent to about six trainloads (60 cars each of 10,000-gallon tank cars).**

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During the first three days of Coordinator Ickes' drive to save gasoline by prohibiting the operation of motor vehicles emitting excessive quantities of smoke, gases and objectionable odors in National Parks, 42 motors in the District of Columbia were directed by park police to report to an inspection station for examination of their cars. The first 18 of these cars to be inspected, by attaching a device to the exhaust to make an accurate analysis of the discharge, resulted in 16 being found violating the regulation and two being cleared. Dated red stickers were issued to the offending cars, and their operators given 10 days in which to make necessary adjustment. For 15 years there has been a specific rule in the District of Columbia traffic code making operation of a smoking vehicle illegal and the new procedure is based on that law. When red stickers were issued, the annual windshield inspection stickers necessary for legal operation of motor vehicles in the area were removed, and will not be replaced until the maladjustment is remedied.

»

Increased production of both medium and light tanks is a major part of the new United States Army program, already through the initial planning stage, to prepare itself for mechanized warfare. Aircraft manufacturers have orders on hand for $7,500,000,000 worth of planes, an increase of nearly 50 percent in the past three months.

»

According to an API news release, currently, 31 women are listed as members of three petroleum technical societies.

move from plants not having defense orders to plants having such orders, the government guaranteeing the workman that his seniority will be maintained at the plant he leaves. What will happen if all the war work, and other work also, takes a heavy drop, can be the subject of considerable speculation.

### *Ready? . . .*

The steel industry reported "ready and prepared for national service," and then had put upon it burdens anticipated by no one, not even the government. So steel and steel's representatives are under fire.

The aluminum industry, with investments for expansion in which it had no cooperation or even encouragement from the administration, took stock of its position and it, too, reported "ready and prepared for national service." And the aluminum industry, with a burden put on it which not even the farthest seeing soothsayer in the administration contemplated, beset with subversive strikes, finds itself accused at the public bar.

Oil, reporting "ready and prepared for national service" . . . will it be hamstrung by lack of supplies and then be accused of falling down?

### *Revolution . . .*

Reports from Washington intimate that New Deal political lawyers and economists whose place in the sun has been threatened by the dollar-a-year men in OPM, are staging a counter offensive to regain control. The grapevine has it that OPACS headed by wisecracking Leon Henderson is to furnish the shock-troops for the blitzkrieg.

### *Pumps for East Texas . . .*

An exceptionally severe pressure drop in the East Texas field presages a more rapid pace for placing wells on the pump. This catches short those operators not already equipped with complete pumping units.

Inability to obtain gas engines may bring about a greater swing toward gas lift and electric power.

Pressure in the field has declined 17.10 pounds this year, of which 13.01 pounds has occurred in the past month. Current bottom hole pressure is 1034.63 pounds, lowest in history of the pool. A continued receding of pressure would cause thousands of wells to require equipment, at late reports have shown 17,900 wells flowing with more than 7700 on artificial lift.

## EDITORIAL COMMENT

# *A Job to Be Done*

UNLESS the false expression existing in Washington as to what the oil industry can do in the way of producing oil is corrected, the oil industry very probably will run into a situation within the next few months which nobody contemplated—a situation that may be dangerous in the extreme. The current idea that all of the oil which the country can consume can be produced just by "opening the spigot a little more," illustrates how easy it is for intelligent men to hear a general statement and retain in their minds only a part of it.

Much has been made of the testimony of Dr. Wilson, petroleum consultant to OPM, before the Cole Committee to the effect that the United States could increase its production over 1940 by 400,000,000 barrels a year and maintain this for two years without any major new discoveries or any unusual amount of drilling.

Official Washington seems to have been impressed only by the first part of this testimony. The "four hundred million barrels" have stuck in their minds but the conditions under which it could be maintained, "without any unusual amount of drilling" seem to have been overlooked. When the obvious inference is made from Dr. Wilson's statement that at least normal operations will be required to produce the oil, this inference is apparently dismissed in favor of the more spectacular thought of four hundred million barrels of additional oil.

Dr. Wilson's figures are somewhat higher than other estimates with which we are familiar and we should like to know more about the survey made by him on which his figures are predicated. We suspect that if any attempt were made to increase the production by 400,000,000 barrels over 1940 without "any unusual drilling campaign" there would be physical waste which will affect adversely our proven reserves. Of course, the demand in 1941 over 1940 for domestic oil will not be 400,000,000 barrels but it is not at all inconceivable that the 1942 demand will be 400,000,000 barrels over 1940, in which event the whole country would be greatly concerned over the oil situation—a concern not at all necessary if provisions are made for a normal flow of equipment.

In an emergency it is true, less attention might be paid to physical waste by both the oil companies and the various conservation bodies. But even though the oil industry, in an emergency, can reduce its drilling and hold its production in status quo for a while, a continuation of this situation will be dangerous.

# *Censorship*

CENSORSHIP imposed by Coordinator Ickes, the Maritime Commission and the Lend-Lease Administration, on the release of news on possible further diversion of American coast-wise tankers to service for England will not contribute to the aid we are giving Britain, will not withhold information of value to the enemy, and will call down merited criticism on those responsible for it.

This censorship illustrates the foolish extremes to which even well intentioned persons can go when they have autocratic prerogatives within their power. It affords a good example, too, as to why people in democratic countries resent censorship.

Had the censorship been made effective against the discussion in the public prints on the recent diversions, it is not difficult to picture the bewilderment which would have resulted when the Atlantic Seaboard discovered that it faced a gasoline and heating-oil shortage without knowing why.

It does not take a very astute person to realize that the public would have been greatly disturbed and that the oil industry would have been accused immediately of falling down in its participation in national defense. Such accusation would have been harmful not only to the industry, but it would have been harmful to the public of the United States.

That further tanker diversion to the extent of at least 30 tankers is imminent, is nobody's secret. That such diversion will render more acute the situation on the Atlantic Seaboard goes without saying.

Washington should not forget that in a democracy public confidence must take the place of the regimentation which is applied in totalitarian countries.

Certainly, public confidence will not be improved by the new censorship proposed. The public knows that Germany is informed on the amount of tanker sinkings accomplished by German raiders, U-boats and planes.

Already the new censorship is giving rise to reports that the administration favors it because the Wheelers and Lindberghs, if informed of the diversion in advance, might delay the conversion. Another report which receives credence in many quarters is that the censorship is but a portion of the general policy to accomplish objectives without the public being advised until such accomplishments are a fact.

While THE OIL WEEKLY believes that our English friends can achieve a greater efficiency on tanker handling than they have achieved to date, it does believe that the practical thing at this time is to increase rather than to diminish the flow of oil to England, but we do not believe that the censorship on tanker diversions will contribute to the movement of an additional drop of gasoline. It will only contribute to the uncertainty and irritation of those participating in petroleum's share of national defense, and disturb the consuming public, who after all, are the American people whose non-shooting war this is supposed to be.

# Washington Roundup

**Ickes proposes route for crude and product lines permitted by new law . . . Japan embargo looms . . . Probable transfer of more tankers to Britain further tightens East Coast situation, gasoline rationing probable . . . Censor further tanker news**

By B. F. LINZ, Washington Correspondent

WITH Congress finally giving its approval to the Cole bill, Coordinator Harold L. Ickes last week disclosed his program for remedying the shortage on the Atlantic Coast by the construction of a $70,000,000 crude pipe line and the building of more tankers.

But even as the administration moved to ease the situation, warnings were given of a further curtailment of supply through the transfer of additional tankers to Britain, and the public was warned that a cut of one third would be necessary in gasoline consumption.

To minimize the shock, Ickes asked for a voluntary reduction of that amount, which it was well realized could not be attained, and a few weeks hence the public probably will be told it has failed to cooperate satisfactorily, and compulsory rationing is necessary.

Responding to protests said to come from Britain, the administration has clamped the lid of secrecy on the negotiations for the transfer of additional tankers. That is now a "military secret."

Plans for the division of what tanker facilities remain, between the United States' East and South American countries which are feeling the pinch, have been worked out between Deputy Coordinator Ralph K. Davies and oil company officials. South America will be put on a "quota system," it is indicated.

Despite the veil of secrecy surrounding the tanker negotiations, it has become known that Britain has asked for up to 100 additional oil ships. But it is indicated she will not get that many. More likely, it is said, she will get, maybe, 30 American tankers and some 35 or 40 foreign carriers that are available in this hemisphere.

The British request for tankers indicates that she has been losing that type of ship in large numbers. Reliable estimates place the losses of British, Allied and neutral shipping up to July 9, last, at 9,500,000 deadweight tons; no figures are available as to what proportion of this total was tanker tonnage.

Still to be heard is criticism that England continues using tankers for commercial service; the charge has been made by members of Congress, but it has never been answered by either the administration or British officials.

Directors for the five regional offices are expected to be announced within the next few days, but in the meantime the closest secrecy is being maintained by the coordinator's office.

It is understood considerable difficulty has been experienced in making selections from among the large number of suggestions, which have been received. A number of men have been "promoted" for the jobs by their friends in the industry, and the best bets are said to be that Wirt Franklin will head the office in the second district and Grady Vaughn will get the post in the third district.

### *Pipe Line Bill Passed*

Totally abandoning its amendment limiting the waiving of the Elkins Act on defense pipe lines to June 30, 1943, the Senate last week made possible final action on the Cole bill, and Coordinator Ickes immediately set in motion the machinery for construction of facilities which have been held up for several months while Congress wrangled over the measure.

Conferees were appointed by the Senate July 21 and immediately met with the House conferees who were appointed July 17. Only a very brief session was held, at the conclusion of which the House group had won a decisive victory.

The House conferees, headed by Representative William P. Cole, Jr. (Dem., Md.), author of the bill, contended that retention of the amendment would result in a refusal of the oil companies to sink their money in pipe lines which they would be unable to operate at the end of two years, necessitating construction of such lines by the government, with federal funds.

Once an agreement was reached, no difficulty was encountered in getting the compromise approved by both Houses, the Senate accepting elimination of the amendment after Senator Tom Stewart (Dem., Tenn.) read a letter sent him by the coordinator, disclosing that he had conferred with officials of the Interstate Commerce Commission, at whose instigation the limitation was incorporated in the bill, and that they had withdrawn their suggestion, in view of an agreement that they will be consulted before relief from the Interstate Commerce Act is granted by the President.

### *Ickes' Pipe Line Program*

Immediately upon completion of Congressional action on the Cole bill, Coordinator Ickes announced his recommendations for remedying the shortage of transportation facilities to the East, including:

1. A $70,000,000 pipe line to carry 250,000 barrels of crude daily from East Texas to the Philadelphia-New York refining area.

2. Construction of a similar line between the Gulf and the Atlantic seaboard to carry refined products.

3. Immediate building by the in-

dustry of an additional 40 to 50 large, fast tankers.

The coordinator announced that he is prepared to recommend priorities in steel and machinery for both the crude line project and tanker construction.

Ickes disclosed that he had decided upon a 20-inch line from the East Texas oil fields to the vicinity of Nashville, Illinois, which would have a daily capacity of 200,000 barrels, connecting with a 16-inch line of 115,000-barrel capacity originating at Wood River, Illinois, with a 24-inch line to be constructed from the junction of the two lines to the Philadelphia and New York refinery areas, with a capacity of 250,000 barrels a day.

The proposed route is expected to be adopted by the major companies that will join in the construction, who had differed on the route and type of the project and had agreed to abide by the recommendation of the coordinator.

It was explained that although the capacity of the 20-inch line from Texas and the 16-inch line from Wood River would total 315,000 barrels, the capacity of the 24-inch line east from the junction is to be kept to 250,000 barrels "so as to obtain a greater flexibility in procuring crude oil for transportation on to the East Coast."

"So routed," Ickes said, "the main line, with the necessary feeder-line connections, will reach the principal sources of oil production east of the Rocky Mountains, and thus will be supported with a maximum of crude reserves."

However, he admitted, "the projected pipe line, if all conditions for its construction are ideal, will probably require a minimum of eight months for construction and, accordingly, will not be a factor in abating the East Coast shortage for some time."

Ickes did not go into detail regarding the suggested products line from the Gulf to the seaboard, but said the industry should immediately give that question further consideration.

He said he expected that Socony Vacuum Oil Company, Cities Service Company, Standard Oil Company of New Jersey, Atlantic Refining Company, Tide Water Associated Oil Company, Shell Oil Company, Gulf Oil Company, The Texas Company and Consolidated Oil Corporation would unite in the financing of the $70,000,000 crude line.

The coordinator declared that at least 40 large tankers should be built in addition to the 139 now under construction or contract by the Maritime Commission and private owners.

"The existing and prospective shortage of tank ships makes urgent a tanker-building program looking to the construction in the shortest possible space of time of 40 to 50 large high-speed vessels in addition to those now in the course of construction or under contract," he said.

The government, he added, will give the utmost possible aid in the procurement of materials for such a program.

Discussing his recommendations in their entirety, the coordinator said "it is my view, in the light of all facts submitted and the opinions advanced, that the necessities of the emergency with respect to the transportation of petroleum to the Atlantic Coast will best be served through proceeding along these lines.

"It has been my purpose to determine among the several plans submitted by the industry that course which would assure a maximum of economy and efficiency within the shortest practicable time."

### *Tankers a "Military Secret"*

British protests that public discussion of tanker transfers was giving information of value to Germany were seen last week as bringing about a strict censorship on information on the subject from Coordinator Ickes' office, the Maritime Commission and the Lend-Lease Administration.

The lid of secrecy was clamped down July 21, following a conference between representatives of tanker operators and Maritime Commission Chairman Land in Ickes' office, at which was discussed the diversion of additional tankers to Britain, the number reportedly going as high as 100.

The meeting signalized the settlement of a controversy between the coordinator and the Maritime Commission over which agency should have the final authority over tanker transfers. There were indications that the matter reached President Roosevelt for settlement, after the quarrel had held up action on transfers for a number of days, and that he ruled the commission should have immediate control over transfers but with the final authority in the hands of Ickes.

In view of the fact that the conference was held in the coordinator's office, it is believed Ickes will make the decisions of policy, in consultation with commission and lend-lease officials, to be carried out by the commission.

Following the conference, those participating refused to discuss the situation and Coordinator Ickes issued a formal statement that the matter constituted a "military secret" and called on the press of the country to refrain from publishing any "specific" information.

It is generally believed the order for secrecy came from Harry Hopkins, head of the Lend-Lease Administration, now in England, following discussions with British officials at which they pointed out that anything published in the American press is bound to reach Germany, where it aids the Nazis in estimating England's strength and planning future operations.

While no information regarding the meeting was made available, there were reports that the British had asked as many as 100 additional tankers, and that their transfer had been the subject of considerable opposition from Ickes and the oil companies, who foresaw that such a shift would leave the industrial East badly crippled and might even threaten the production of material for both the defense program and British aid.

If that number of ships is transferred, it was admitted, rationing will be inevitable, and officials are understood already to have worked out a scheme for dividing what oil products there will be among the various classes of consumers.

Transfer of more than half of the tankers normally engaged in the Gulf-Atlantic service will bring forth violent protests from Congress, it was indicated. Members from the Eastern areas which are facing a shortage of oil this winter are definitely opposed to any further curtailment of supplies, pointing out the danger to the defense program as well as the hardship upon the public resulting from such a course.

There was some indication that a compromise might be worked out, under which the British, instead of getting anywhere near the 100 ships they are reported to have asked, would get 50 or less by the transfer of some 40 under the Norwegian flag, most of which now are engaged in the South American trade, plus some domestic tankers.

The possibility of this action was

based on a conference held July 23 between the coordinator and oil companies engaged in the Latin American trade, at which was discussed the future of the Latin American countries which are dependent on tankers for supplies.

Chiefly affected by the increasing shortage of tonnage are Argentina, Brazil, Chile and Uruguay, already feeling the pinch of shipping adjustments previously made.

Declaring that the oil economy of the Western Hemisphere is so interwoven that "anything done in either part is bound to be reflected in the other," Ickes declared that the Latin American countries and our own East Coast would be put on a share and share alike basis.

"We of the United States certainly do not wish to do anything in our efforts to abate the East Coast shortage that will cause the people of the other Americas to make greater sacrifices than those we make ourselves," he said.

"The American republics have too much at stake in the current world situation for any one of them to act in a manner that disregards the interests of the other. Our good-neighbor policy demands that we share and share alike, and that is what we will do in solving the many different problems confronting all of the American republics as a result of the severe dislocation of the transportation services upon which we all depend."

The conference, called after consultation with State Department officials and Nelson Rockefeller, Coordinator of Commercial and Cultural Relations Between the American Republics, discussed plans for such distribution of the available supply and tankers, not only American flag but those of other countries now in Western Hemisphere service, in such a way as to equalize deliveries among the various areas.

Suggestions that extensive further transfers to Britain might be avoided by extending the route of the United States "shuttle" service to Iceland, were said by officials not yet to have been decided. It was pointed out that establishment of a transfer point at the Iceland base would involve the construction of new docks and large storage facilities. Similarly, it was said, no decision has been made on the use of Newfoundland as a transfer point, because of the same requirements for major construction.

Meanwhile, as all possible resources were being marshaled to deal with the Eastern situation, a vast new shipbuilding program, using yards on the Great Lakes and the inland waterways to construct tankers which would be floated to the sea on pontoons, was under discussion.

About 145 tankers are now under construction or contract for the government and private interests, and coastal yards are operating at capacity on these and other defense shipping orders. No great number of additional ships can be constructed without adopting the expedient of using the inland ship plants.

By speeding up construction, 16 additional tankers of about 160,000 gross tons will be added to the fleet in the next six months, and total completions of new oil carriers this year will be 27 of approximately 270,000 gross tons, 11 of approximately 125,000 tons having already been delivered.

For 1942 and 1943 delivery, the Maritime Commission has 80 tankers of over 800,000 gross tons building, 8 of them under its long-range program and 72 for emergency use.

### *Rationing Urged*

In a move seen as preparing the East for further diversions of tankers, Ickes stepped up his demand for voluntary curtailment of consumption from the 15 percent originally proposed to 33⅓ percent, and warned that unless this is accomplished official rationing may be resorted to.

In the first formal proclamation issued by his office, Ickes called on governors of the 16 Atlantic Coast states, the government of the District of Columbia, the companies operating in the territory and other agencies affected to bring about a cut of one-third in the use of motor fuel "immediately and until further notice."

He explained that he had made an investigation of the situation, as required to do by the President when designating him as coordinator. Information obtained from Federal agencies and the industry, he said, showed that:

"1. The daily average shipment of petroleum and petroleum products from the Gulf Coast to the Atlantic Seaboard has declined substantially and that further declines are anticipated.

"2. Existing supplementary transportation facilities can make up only a part of the deficiency and certain contemplated new transportation facilities will not be ready until 1942.

"3. The trend of consumption of petroleum products in this area is upward.

"4. As a result of these factors, the usual seasonal increase in stocks of petroleum and petroleum products to meet the heavy winter demand is well below the normal rate, and the stocks of industrial fuel oils, domestic heating oils, motor fuel and crude petroleum will not be adequate to meet essential demands this winter unless there is an immediate and drastic reduction in current consumption."

At the same time, Davies asked the 19 large companies operating in the area to adopt a practice of submitting weekly reports on their retail sales, in order that the government might be kept informed of the public's response to the call for conservation.

"What we want to develop," he explained in a telegram to each of the companies, "is the nearest possible measure of the trend of retail purchasing in this area and what effect requests for voluntary curtailment have on the use of gasoline.

"Obviously," he pointed out, "shipments from refineries and terminals to points of consumption will not suffice."

The first report was requested for the week ended July 18, and for each week up through Friday thereafter, to cover net sales of gasoline to dealers and through company-owned service stations, but not sales to jobbing resellers nor to large tank car buyers or commercial accounts.

### *Tanker Building Program*

The shuttle service operated for Britain has taken approximately 600,000 tons from the domestic tanker fleet, the House Appropriations Committee was told by Maritime Commission officials during hearings on an appropriation bill.

The committee was told that under the commission's construction program, twelve 18-knot tankers, each of 18,300 deadweight tons, have already been delivered, providing a total tonnage of 219,600; and eighty-three 13- to 16-knot tankers of 16,600 tons each, a total of 1,377,800 tons, are contracted for or under construction. In addition, forty-eight 12- to 16½-knot ships of 10,000 to 16,600 tons, totaling 725,500 tons, are under construction for private account. As of July

1, there were 347 tankers of 2000 gross tons or over under American registry, totaling 4,057,604 deadweight tons.

The commission's ship construction program as of June 23, last, showed that tankers were under construction or contracted for in the following yards:

Sun Shipbuilding & Drydock Company, Chester, Pennsylvania: three tankers completed at a cost of $9,355,119.86; five under contract to cost $13,100,600 and 72 under contract to cost $190,800,000.

Bethlehem Steel Company, Sparrows Point, Maryland: three tankers completed at a cost of $9,615,-852.49; six under construction at a cost of $16,122,000.

Newport News Shipbuilding & Drydock Company, Newport News, Virginia: three tankers completed at a cost of $9,140,-552.91.

The Maritime Commission announced July 23 that it would open proposals August 11 for the construction of 16 tankers of approximately 1800 deadweight tons each, to be built for operation on the Great Lakes.

### *Japanese Embargo*

Japan last week faced the probable shutting off of her United States oil supply and the closing of her most important market for silk, together with the "freezing" of her assets in this country, all in punishment for aggression in Indo-China. If her oil supply is shut off and her market for silk closed, industrial experts in Washington said, Japan will be left in a most difficult position. Her sales of silk to this country have been her most important source of outside money for the support of her tottering industry, it was said.

### *Ickes Says*

If the public fails voluntarily to reduce gasoline consumption by one-third, as recommended, rationing is the only way out.

Discussing the situation July 24, the coordinator explained that the figure of one-third was the "nearest estimate we could make of the probable deficiency for coming months." That is a general estimate, taking into consideration "all the factors," including possible further tanker diversions.

His organization has figures on the consumption of a week ago and next week will have figures on the current consumption, study of which will disclose the extent—if any—to which the public is cooperating. The figures on stocks will not be given out.

"If a voluntary move is not successful we will have to ration," he warned.

No decision has been reached as to the necessity for a products line from the Gulf to the East Coast, nor as to the route it would take if found desirable.

The oil companies are willing to build the proposed crude line, "but we don't know yet on what terms," he revealed. "Those will have to be negotiated."

### *Criticizes Illinois Bill*

Ickes was voluble and highly critical on the new Illinois oil legislation.

"The title is wrong," he declared. "It should have been 'a bill to encourage waste of the resources and mineral wealth of the State of Illinois.' It is not a conservation bill; the whole thing is a joke as a conservation measure. It doesn't have a single conservation feature except the misuse of the word in the title."

Asked if he would make any further recommendations, he replied: "I don't see any use of making recommendations to a legislature that is determined not to prevent waste of a very valuable resource. I have been making recommendations for a number of years."

As to whether he could do anything in the Illinois situation as oil coordinator, he said frankly, "I don't know yet" whether there is any authority to take action.

It was revealed that the coordinator's staff is to have 29 offices in the Interior Department building vacated by the Grazing Service, which is being moved to Salt Lake City, Utah.

### *Congressional Views*

That members of Congress are watching the oil situation closely is demonstrated by the frequency with which they refer to it, both on the floor and in committee hearings.

Calling attention to the threat of gasless Sundays, Representative Fred L. Crawford (Rep., Mich.) told the House July 21 that reductions in rates by the railroads would tend to drive out the truck transportation of oil from refineries, and that the railroads should not engage in short-haul operations which can be conducted by trucks.

Crawford also was critical of the length of time which he charged is used in loading and unloading tankers, tank cars and trucks, asserting that tank cars arriving at refineries toward the end of the week lay over from Friday night until Monday morning, and that trucks are used "sparingly" on Saturdays and not at all on Sundays.

"An unloading arrangement operating 24 hours per day and 7 days a week would increase hauling and delivery capacity probably as much as 30 percent," he declared.

On the same day, speaking at a hearing of the Naval Affairs Committee, Representative Lyndon Johnson (Dem., Tex.) charged that the Navy and OPM are "ignoring" small companies in procuring oil supplies for the military forces.

"The small producers are anxious to cooperate," he said. "But the OPM won't give them a contract because it would mean expanding their facilities and perhaps overcrowding the field when the emergency is over.

"Small oil producers contend that when the Navy gets ready to buy oil, it buys it from a major company that uses a Venezuelan product and our domestic oil stocks are left alone."

A comment by Senator James M. Mead during a hearing before the Senate Committee on Defense July 23, that 400,000 barrels of oil had recently been shipped from the Pacific Coast for Japan although there was a serious shortage on the East Coast, brought from Senator Tom Connally an assertion that if the United States cuts off Japan's oil supply that country would move to take over the Dutch East Indies.

Connally's comment was considered of importance because of the fact that on the preceding day he had attended a White House meeting at which the international situation was discussed, and his views were considered as a reflection of the position of the administration.

If has been no secret that for some time the State Department has considered that the allowance of oil for other than war needs to Japan was a factor in keeping the ambitions of that country for expansion within bounds, and that department officials were fearful that an embargo on oil might precipitate the invasion which has long menaced the Dutch East Indies.

Representative John M. Coffee (Dem., Wash.) last week asked

the House Rules Committee to give right of way to his resolution for a joint Congressional investigation of Axis acquisitions of oil and other materials of war in this country.

The resolution was introduced May 5, last, when Coffee charged that Japan was getting oil from the Western Hemisphere and that Germany was getting oil from South American sources, transported sometimes in American-owned tankers.

He seeks an investigation of all Axis acquisitions in this Hemisphere, to be made by a committee of five Senators and five Congressmen, with an appropriation of $20,000.

The study would cover "the extent to which, the sources from which, the manner in which, and the mediums through which, the so-called Axis Powers are obtaining or have obtained essential war materials from the Western Hemisphere." The committee would be instructed to make recommendations to Congress for such legislation as it might find necessary to deal with the situation.

### *Navy Storage*

The Navy Department last week prepared to undertake construction of extensive oil storage facilities, some underground, under a naval construction bill authorizing more than $31,000,000 for the work.

The bill authorized construction of additional underground storage at the Pearl Harbor, Hawaii, naval fuel depot, to cost $16,000,000, and approved development of storage facilities for fuel oil, Diesel oil and gasoline at various locations at a cost of $15,300,000.

An appropriation bill providing the funds to carry out the projects is expected to come before Congress before the end of the month.

### *Public Lands Development*

Intensive exploitation of the oil and mineral resources of the public lands was urged July 23 by federal officials and railroad representatives appearing before a subcommittee of the Senate Public Lands Committee at a hearing on the resolution of Senator Joseph C. O'Mahoney for an investigation of their possibilities.

Secretary of the Interior Ickes laid before the subcommittee a program for the development of new mineral industries in the public lands states.

Pointing out that in the nine states west of Kansas and Nebraska served by his road, there are 340,000,000 acres of federal-owned public lands, William M. Jeffers, president of Union Pacific Railroad Company, declared that within that area there is a potential mineral production "whose vast extent is unknown because it has not been thoroughly explored" and that exploration is now imperative because of the national emergency.

The O'Mahoney resolution is aimed at encouraging production from the public lands of all existing mineral resources, including oil and gas.

### *Pipe Lines for War*

"If the United States joins in an all-out war against Germany, major additions to the national pipeline system will have to be undertaken," it was warned by Basil B. Zavoico, of the department of petroleum economics, Chase National Bank, writing on the oil situation in "Sea Power."

"The majority of the tankers would have to be used directly in the warfare," Zavoico pointed out, and "curtailment of the residual fuel oil and gasoline consumption will become unavoidable, and such curtailment on a smaller scale is apparently unavoidable locally on the Eastern Seaboard at the present time."

One of the ironies of the diplomatic moves by which the United States has attempted to cut off Japan's supply here of scrap metal, the article brought out, has been that for several years huge volumes of steel have been secured by Japan in the form of containers in which oil has been carried to that country. These shipments, it pointed out, were stopped early this year, but in 1940 it is estimated, Japan secured 185,000 tons of steel in this way.

Discussing the European situation in the light of recent war developments, Zavoico commented that "it is one of the mysteries of the present war why the Rumanian fields and plants have not been extensively damaged, more particularly since the fate of the Balkans and of the whole Near East feasibly depended upon such action.

"The Allies should be under no false illusion regarding the rapidity with which Germany can build major pipe lines to exploit their gains in this area," he asserted.

"If the war draws out into a 5-year period, and if Germany can win the Iraq oil, she will build tankers and pipe lines to make Iraq crude a major tool in the present war. If the war extends east of Iraq and involves India, then the possession of local (Iraq) oil supplies becomes all-important."

### *August Demand Up*

Anticipating that, safeguarded against further tanker transfers, the curtailment of East Coast markets next month will be less than originally feared, the United States Bureau of Mines foresees that August demand for domestic crude will run at a rate of 3,940,000 barrels a day, 92,900 barrels higher than predicted for the current month, and 11 percent above the actual demand for August, 1940, when requirements were abnormally low and represented a reaction from unusually high operations in the preceding quarter.

The anticipated August market, however, is somewhat under that for the 5-week period from June 7 to July 12, when production averaged 3,811,000 barrels and total runs to stills 3,873,000 barrels a day, with a decline in domestic stocks of 176,000 barrels daily, indicating a demand of 3,987,000 barrels.

### *Defense Standardization*

Invoking the weapon of standardization as an aid to defense, OPM officials on July 21 conferred with representatives of manufacturers of steel drums with a view to determining the extent to which standardization and substitution of materials would simplify sizes and types and reduce the industry's need for steel plate.

The conference was aimed at insuring drum manufacturers an adequate supply rather than at reducing output, since the Army and Navy are heavy users of steel containers, as are the highly important petroleum, paint, chemical and food industries.

The industry has been experiencing increasing difficulty in securing supplies sufficient to meet the demands of the defense program, as have, in fact, all other consumers of steel. The meeting canvassed the possibilities of using substitutes for steel in containers for products which do not require the protection of that metal, and the elimination of as many sizes and types as possible so as to conserve material.

# Automatic Pressure Control

## Aids Drilling of Wild Well

DRILLING under pressure, plus the adaptation of ingenious automatic back-pressure maintenance equipment, enabled Edwin M. Jones to combat successfully an abnormally high-pressure formation condition in Live Oak County, Southwest Texas, which previously had blown out and wrecked two attempts at penetration.

George West Estate B-1, first well in the region, blew out September 14, 1940, at 8387 feet, in the top of the Wilcox sand. Drill pipe was stuck in the hole, but the operator was able to cement it in place. The well made a high-gravity oil producer, but was subsequently abandoned because of mechanical difficulties.

West B-3 then was spudded, and at 6787 feet a string of 9⅝-inch casing was set to protect the hole. On March 4, 1941, while attempting to core at 9039 feet, the well got out of control, destroying much of the rig. The flow was killed and the hole cemented, bridging at at about 4400 feet.

With pressure coming from below 9000 feet, and with cement at less than half that distance to be drilled through as first step in reconditioning the hole, Jones was faced with a problem in getting sufficient weight in a fluid column of less than 4500 feet to balance the deep pressure. To provide this control, pressure drilling was used, with surface control to enable any desired load to be maintained in the hole.

### The Rig

The new rig, designed and equipped with hydraulic rotary and pull-down yoke for control of the flush-joint drill pipe through drilling packer, used a 136-foot steel derrick, drawworks with hydromatic brake, and steam drilling engine. The rotary table was equipped with hydraulic cylinders which permitted it to be raised for a grip on the kelly, and then lowered under controlled pressure to maintain feed on the bit and secure pipe against being blown out of the hole.

For coming out of the hole or running pipe, a hydraulically actuated pull-down yoke was set, and the drilling crews trained in its use so that they would be thoroughly familiar with the operation in case well conditions required snubbing of the string.

### Space for Controls

To provide space for the various controls required in maintaining back pressure on the mud in the hole, a balcony or auxiliary operating platform was fabricated from steel salvaged from the first derrick over the hole. This space, 30 feet long by 8 feet wide, was set at derrick floor level, and to the right of the driller's stand so that signals between driller and control operator could be observed at all times.

The platform carried the mud-choke manifold, individual and plainly labelled controls for the master gate, mud-return main, flow lines, drilling blowout preventer, emergency blowout preventers, gauges and recording chart for checking input and outflow mud pressures, and a booster pump for stepping up hydraulic pressures in the ram-actuating systems of the blowout preventers.

Controls on the balcony were arranged so the operator was able to observe working of the entire rig, including activities on the rig floor, the pumps and boilers. One of the foremen was stationed at these manifold banks during the entire drilling operation, so as to be readily available to open or close them at a second's notice. Signs over each valve described its operations. Signs on the more important controls were painted red and others black. A high steel railing encircled the balcony to prevent workers from falling off should they become careless.

### Pressure for Blowout Preventers

Normally water pump pressure served to actuate the emergency blowout preventers, and was piped to the control panel, mounted on the platform at the side of the derrick floor. To provide additional pressure on this fluid if necessary, a 14-inch pump was mounted on the balcony. The fluid to the blowout-preventer control by-passed this pump, but might be switched to the suction, the pump started, and the pressure of the fluid reaching the preventer rams boosted to any figure desired.

Due to the close check kept on mud volumes in the calibrated pits, ample warning of impending blowout was assured to insure that the booster pump would be operating and full pressures available at the rams when needed. The rams used in the emergency equipment were such that rotation of the drilling string might be maintained even though the rams were closed to control a potential blowout.

In addition to the normal and stepped-up pressures available for hydraulic operation of all preventer rams, extensions and large handwheels situated outside the substructure framework enabled manual closing in case of emergency.

Further blowout protection was afforded by the installation of a 10,000-pound capacity stop cock between kelly and swivel. This unit, normally blocked in the open position, could be closed manually if a blowout threatened, preventing flow up through the drill pipe and into the mud hose.

### Watched Traveling Block

The traveling block set-up provided a feature for safety also. It was covered with aluminum paint

to make it more visible to the driller. The flush-joint drill pipe used became coated with the almost white chemically treated mud as it came from the hole, and this made distinguishing joints at a distance of only a few feet almost impossible. This situation required watching the traveling block to determine the position of the pipe when coming out of the hole. The aluminum-painted traveling block was easily visible despite fog, haze or poor light. At the time the well was being completed, another device was ready to be put in which would have aided this condition. It was an electric eye on photo-electric cell to be installed so that when the block reached a certain elevation in the derrick a light at the eye level of the driller would flash, thus indicating the drill pipe had been raised sufficiently. This device will be used by the operator on subsequent operations when needed.

### Uniform Pressure

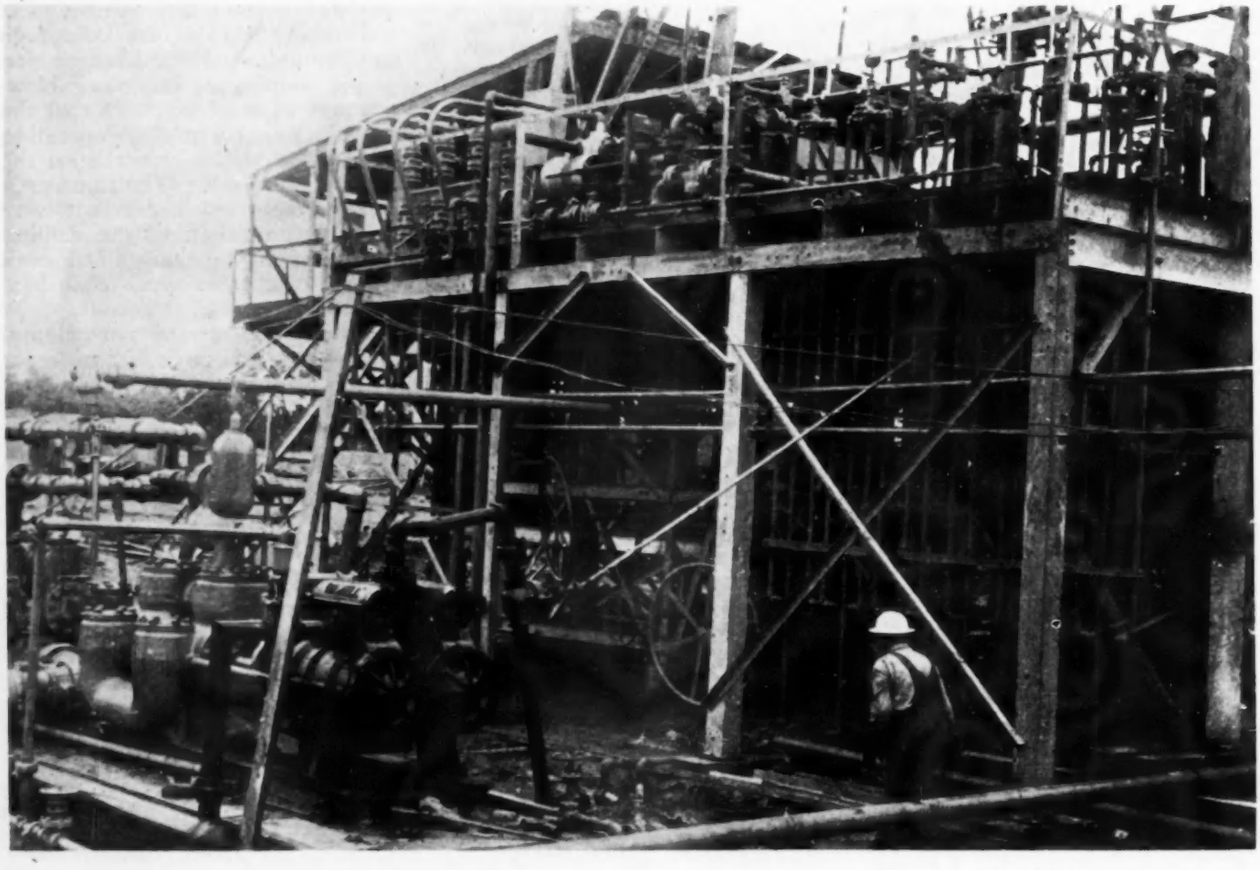
Maintenance of uniform working pressure on the well at all times was attained through use of an 18-inch pump which constantly "floated" on the mud column, a modified boiler feed-water type of regulator being tied in with the mud line so that any variation was communicated to the throttle of the pump and the flow varied accordingly.

The four adjustable chokes, one each on the two-inch lines taking flow from the four-inch mud line at the well, were set to maintain approximately the desired back pressure on the well under normal operating conditions, leaving the floating-pressure maintenance pump to make up for any fluid lost into the formation, and to compensate for void created as the drill pipe was withdrawn through the drilling blow-out preventer when coming out of the hole.

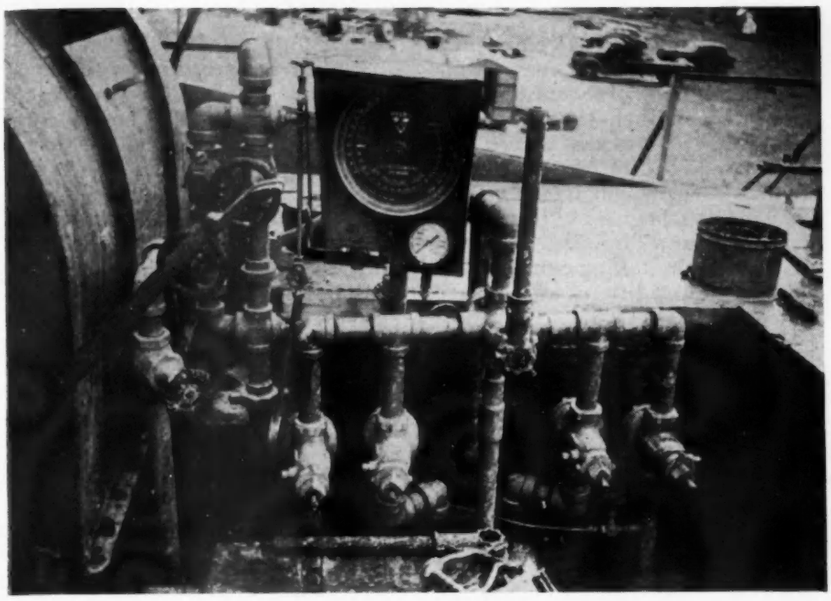
Use of the pressure-maintenance pump gave accurate compensation for even minute fluctuations in mud-stream volume or pressure, and eliminated the necessity of attempting to maintain this uniform pressure through hand manipulation of the various chokes on the mud-distribution panel. With the actuating line for the pressure-control diaphragm tied in to the ascending mud column below the master gate, any variation occurring was felt at the diaphragm while the mud stream was still under full annulus conditions, and before any branches or split streams could affect actual pressures and show fictitious readings of the conditions.

The mud choke manifold took the full stream of mud as it reached the surface, carrying it through a short four-inch lateral to the breakdown point where it entered a manifold of four similar two-inch lines, each making a wide sweep through a preformed bend to avoid undue pressure loss and localized scouring and entering a branch control gate. The four lines beyond their individual control gates were tied in with a welded manifold, beyond which each line continued with individual block gate and an adjustable choke.

Past the adjustable chokes the mud flow was carried, still in four separate two-inch lines, down from the control platform and across the ground to the degasser, the four



**A balcony or extension of the usual derrick floor provided space for the four mud control lines and the seven controls giving complete operation of all blowout preventers and flow lines. The piping for the various blowout preventer controls was a masterpiece of pipe fitting, the various parallel lines being paneled with through back-up straps to eliminate vibration. All turns in the 2-inch mud lines were long prefabricated sweeps, equipped with flange connections, to prevent spot corrosion.**

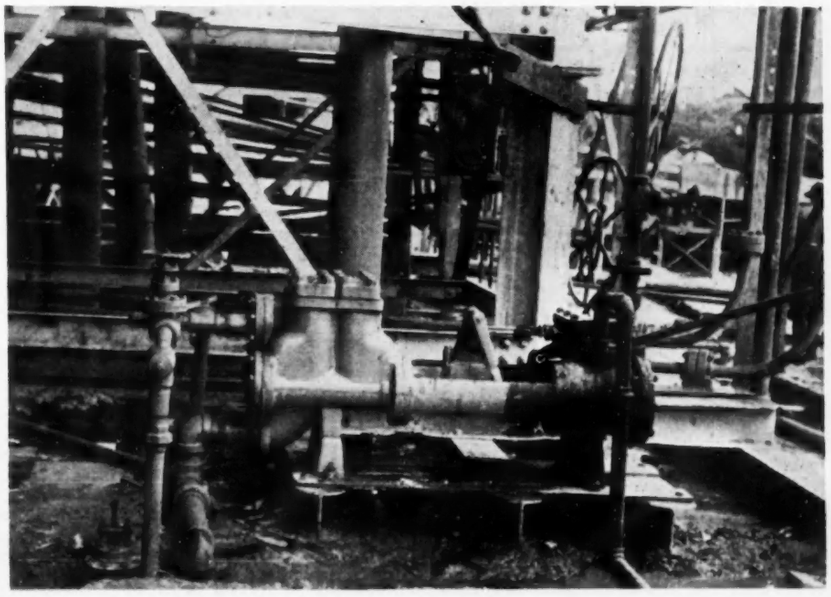


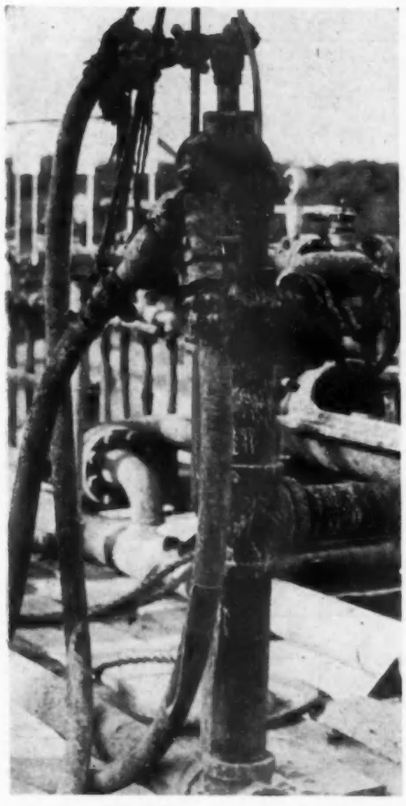
(thribbles) had been run into the hole, and was manifolded so fluid could be taken from any mud pump stream.

Pressure on the oil actuating rotary table and pull-down yoke was maintained by a small duplex pump, situated below the derrick but with extended throttle handle so driller maintained desired pressures on oil system. A 10-barrel tank provided reservoir and reserve stock during operating cycle of either table or yoke. (Center picture).

White mud and flush joint drill pipe made the joints indistinguishable and added to difficulty of checking string when pulling pipe. The traveling block was painted with aluminum to add visibility and permit faster runs with greater safety. (Picture at bottom).

Controls for both rotary and pull-down yoke hydraulic cylinders were brought to the driller's stand adjacent to the brake. Operation of the master valve handle through 45 degrees from horizontal, resulted in corresponding travel of table or yoke, depending upon which was connected to the pressure main through its pair of valves to right or left of center control.





Circulating head used to fill drill stem against back pressure valve when running pipe into the hole. This head was used to fill pipe after each 10 stands

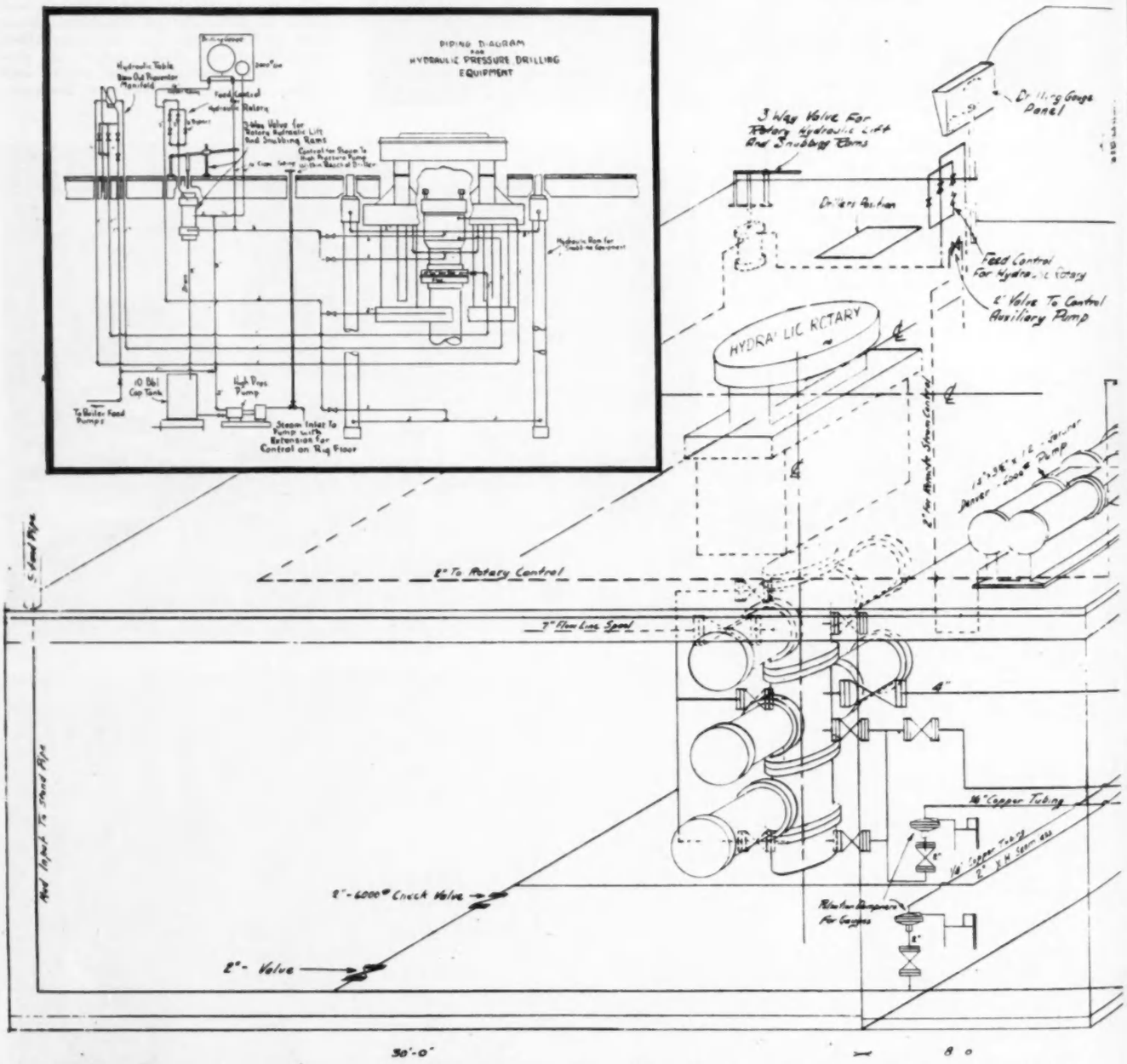
lines entering the degasser through anchored right-angle turns.

From the degasser the mud flow was through a short line to the apron of the screen, where it was cleaned in the usual manner and returned to the mud-storage pits.

### Covered Slush Pits

Two covered steel slush pits, gauged to the ¼ barrel, were another vital feature. Accurate information was kept of mud gain and loss at all times by the use of a 24-hour chart which recorded showings of an electric gauge. These data were extremely important as they indicated formation conditions. In addition, the hook-up was such that it became an alarm of blowouts before they occurred. If the supply in the mud pit increased, which indicated that the well was beginning to head, or if the amount diminished, due to the formation taking some of the fluid, those conditions were clearly indicated.

Should the gauge show a gain in the mud pit of as many as five barrels of mud, contact was made with electric light set up immediately opposite the driller and a red light burned. Under ordinary conditions, at least 40 to 50 barrels of mud would have to be headed out of the hole before a blowout would occur. This meant that the set-up on this rig gave about 15 minutes of warning on a blowout. Whenever the light burned, however, no time was wasted in bringing about the conditioning of the test. A manifold valve was opened and the flow diverted through a choked discharge line into a specially constructed blow box to separate the mud and




**Seamless pipe and forged steel fittings made up the control piping system shown in inset at top, for control of rotary table, pull-down yoke and combination drilling packer and blowout preventer. 3000-pound pressures on rotary hydraulic system give adequate power for handling entire drilling string into and out of hole against any formation pressures. Piping diagram and schematic layout of drilling unit, booster pump, mud chokes, blowout preventer controls, diaphragm**

gas. The various stages of the blowout preventers could be used under required conditions should the blow prove unruly.

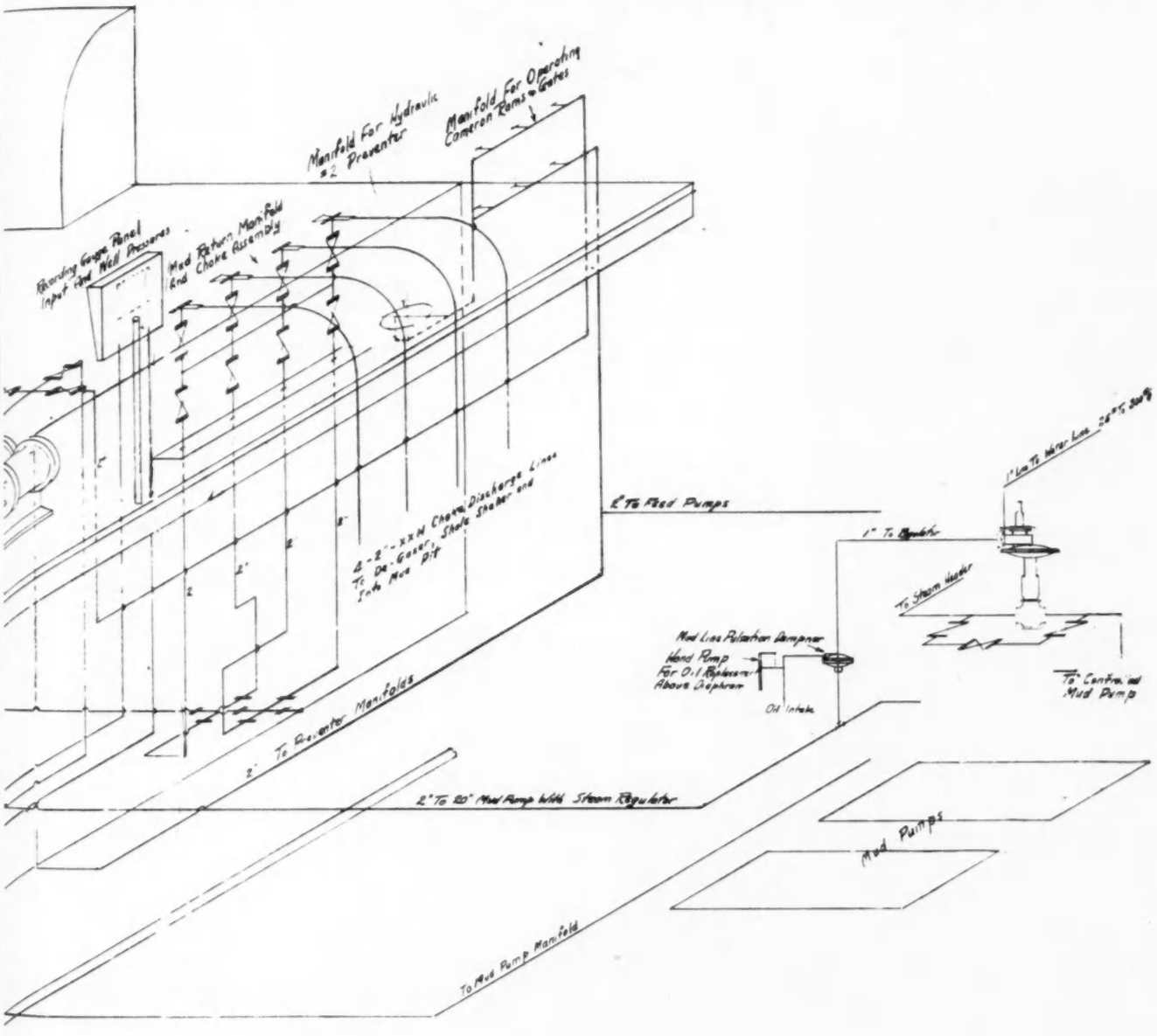
In the event of a loss of as much as five barrels of mud, a blue light flashed in front of the driller. By conditioning mud, pumping in gel flakes or some other action, the thief formation was quickly sealed and the well made ready to go ahead. This was of vital concern as the entire hole had to be kept in the same condition to reduce the possibility of an activity setting up at any level to disturb the routine of the exploration.

The electric light assembly providing warning to the driller was mounted atop a box in which were located gauges showing input and output pressures of mud into the well at all times. A 24-hour chart of the same formation was maintained by the use of a recording instrument connected into the same set-up.

### Uniform Mud

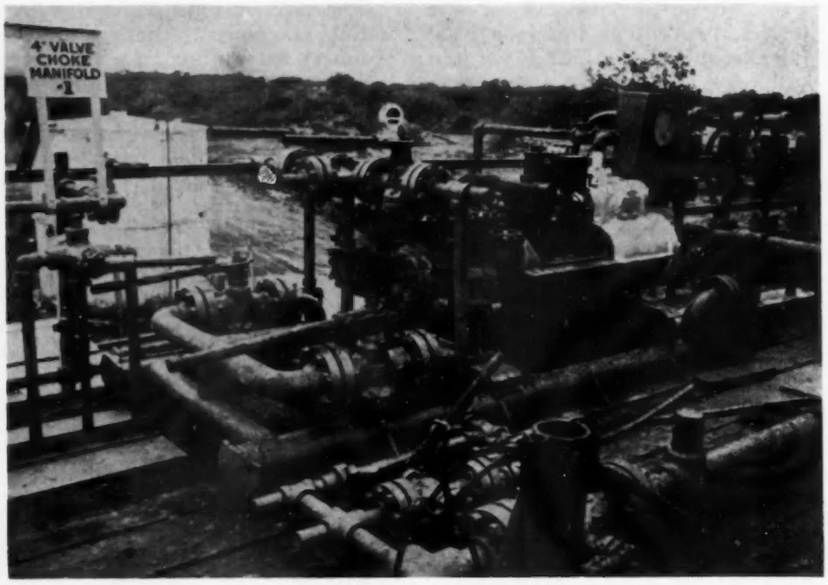
Mud used in the lower section of the hole was 15½-pound, 57-viscosity with gel strength of 20 to 30 test. Several types of commercial mud were employed in keeping this mud in relatively the same condition at all times. Cutting with gas and extreme temperatures (164 degrees at well mouth and 270 degrees at bottom of hole) hampered handling of the drilling fluid. After the mud was run over the vibrating screen, it was carried through a trough to the degasser, which was a vibrating device, fully enclosed, that separated the gas from the mud. The mud in the pits was agitated and new mixture regularly added to keep it in constant condition.

The circulating of a mud of equal consistency and maintaining the


Manifold For Hydraulic 12 Preventer
Manifold For Operating Cameron Rams & Gates
Recording Gauge Panel Input And Well Pressures
Mud Return Manifold And Choke Assembly
4-2"-XXH Choke Discharge Lines To Degasser, Shale Shaker and Into Mud Pit
2" To Mud Pumps
1" To Boiler
To Steam Heater
Mud Line Pulsation Dampner
Hand Pump For Oil Reservoir Above Diaphram
Oil Intake
To Centrifugal Mud Pump
To Preventer Manifolds
2" To 20" Mud Pump With Steam Regulator
Mud Pumps
To Mud Pump Manifold

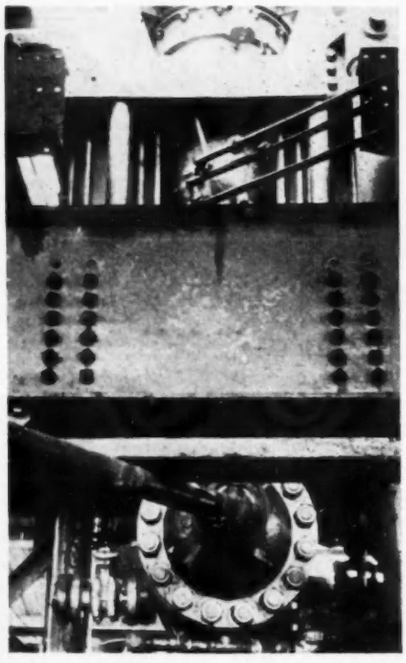
**control of pressure-maintenance pump and other essential details of installation for full pressure drilling. All high-pressure mud lines, shown as put in with sharp bends, actually were installed with wide sweep bends to reduce friction losses and prevent spot scouring. As actually erected, main control platform was set to right of driller's stand, instead of across rotary table, the tie-in being made according to the plan, insofar as units and lines were concerned.**

# Control of Pressure

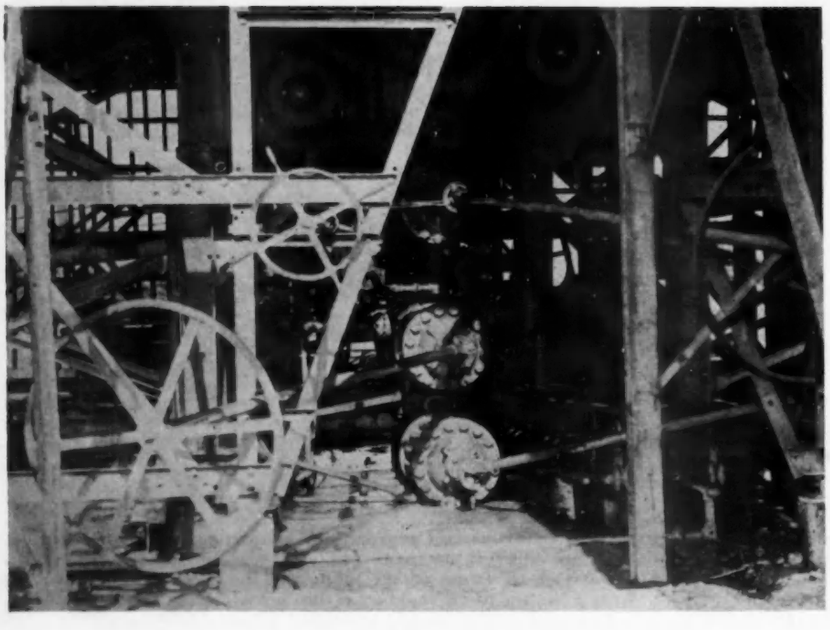



Pressure to operate the blow-out preventers normally was derived from the water circulating system, but this stream, by-passing this pump on the balcony, could be turned into the pump suction and the pressures raised to any desired value under the 6000-pound capacity of the pump.

Mounted at one side of the balcony which was added to the normal derrick floor, seven sets of control valves permitted instant operation of the drilling preventer, the choke manifold, the master gate, either of the emergency blow-out preventers, the 3000- or the 6000-pound flow line gate. An operator remained constantly at these controls during drilling operations.

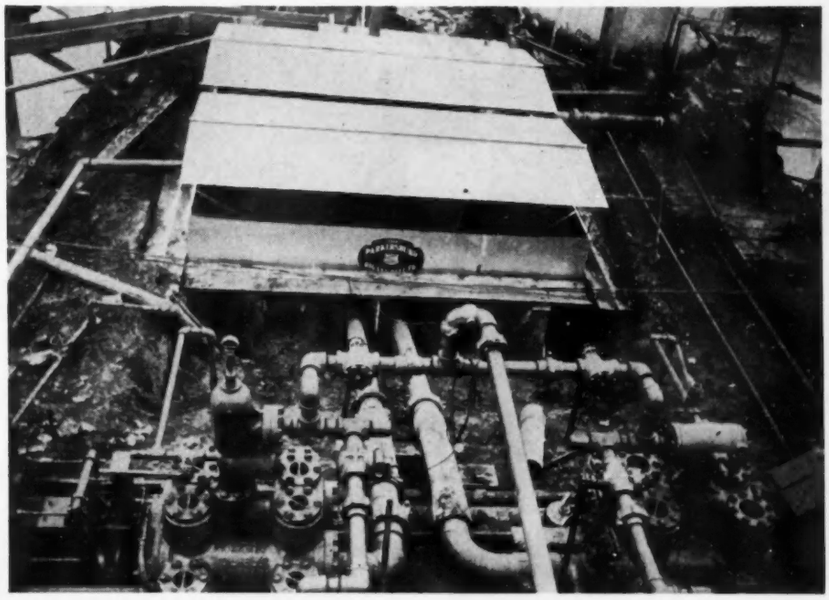


Directly under the rotary table was located the drilling packer and blow-out preventer normally used when drilling in under pressure. Control of this packer was carried to the console on the balcony at a point where the operator could best check with the driller at the brake.

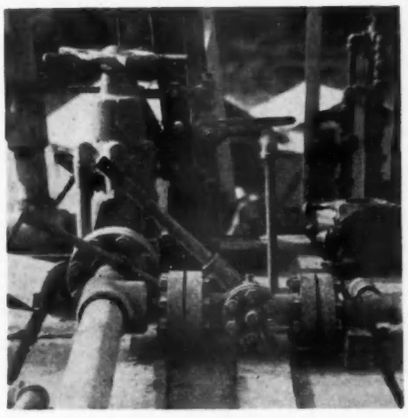


Two hydraulically operated blow-out preventers and master gates were mounted below the rotary unit, each equipped for fluid manipulation and arranged to permit drilling through when closed. In case of delay or trouble with the fluid ram-actuating system, large handwheels, carried to points outside the substructure braces, permitted manual operation of preventers and flow line valves.

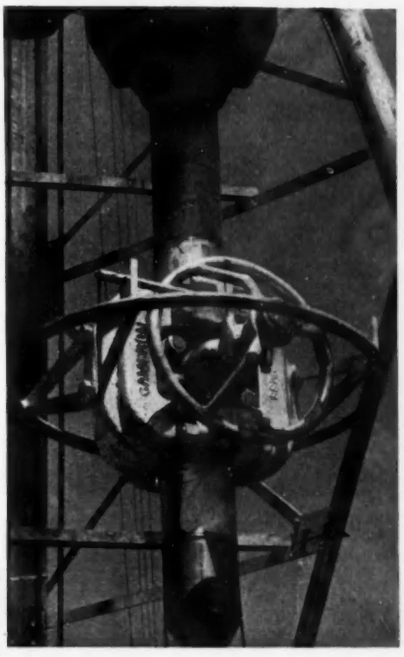
# Control of Drilling Mud



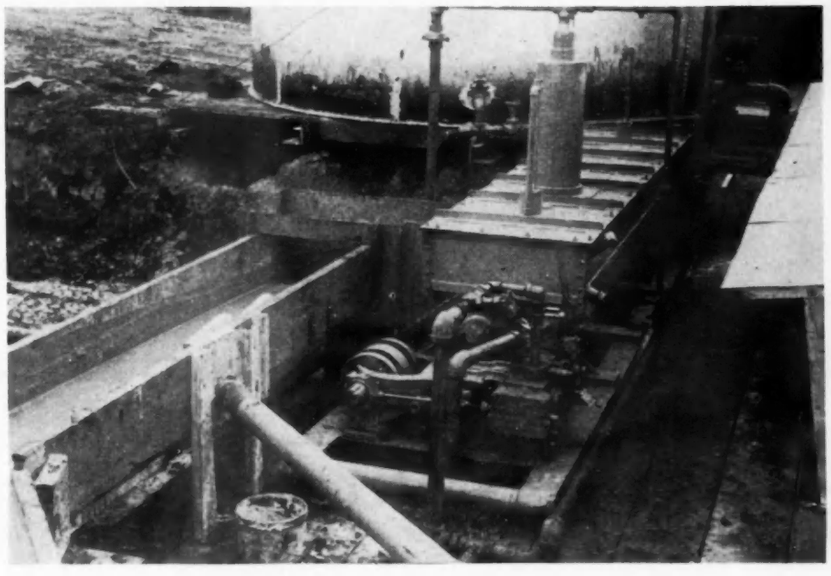
Stored in covered, calibrated pits, mud for normal drilling was handled by two 20-inch steam pumps, manifolded for compounding. Mud suctions from the steel pits to pump intakes carried rubber hose sections to isolate pump vibration. Full swivel joints tied the mud header from the pumps to the derrick main and compensated for changes in alignment during drilling of well.



Mud valve at the standpipe provided derrick floor control of flow and possible back pressure against the time a man could reach and close the kelly cock. The by-pass connection to the mud line was protected by a quarter-turn valve, the handle so set that operation was possible in only one direction from closed position, speeding manipulation.



Protection against kicking back or blowing out through the drill stem was assured by a 10,000-pound capacity kelly cock, carried just below the swivel and normally retained in the open position by means of a locking bar through the spokes of the hand wheel and the rim of the anti-fouling circular guard.



Degassing of the mud from the lower formations required passage through an enclosed unit for final purification of the mud. Although agitated in its passage through the shale shaker and carried fully a hundred feet through an open trough, the slush was still cut with gas at the time it entered the machine. Processing through this unit resulted in mud of the proper consistency being returned to the tanks, no longer gas-cut.

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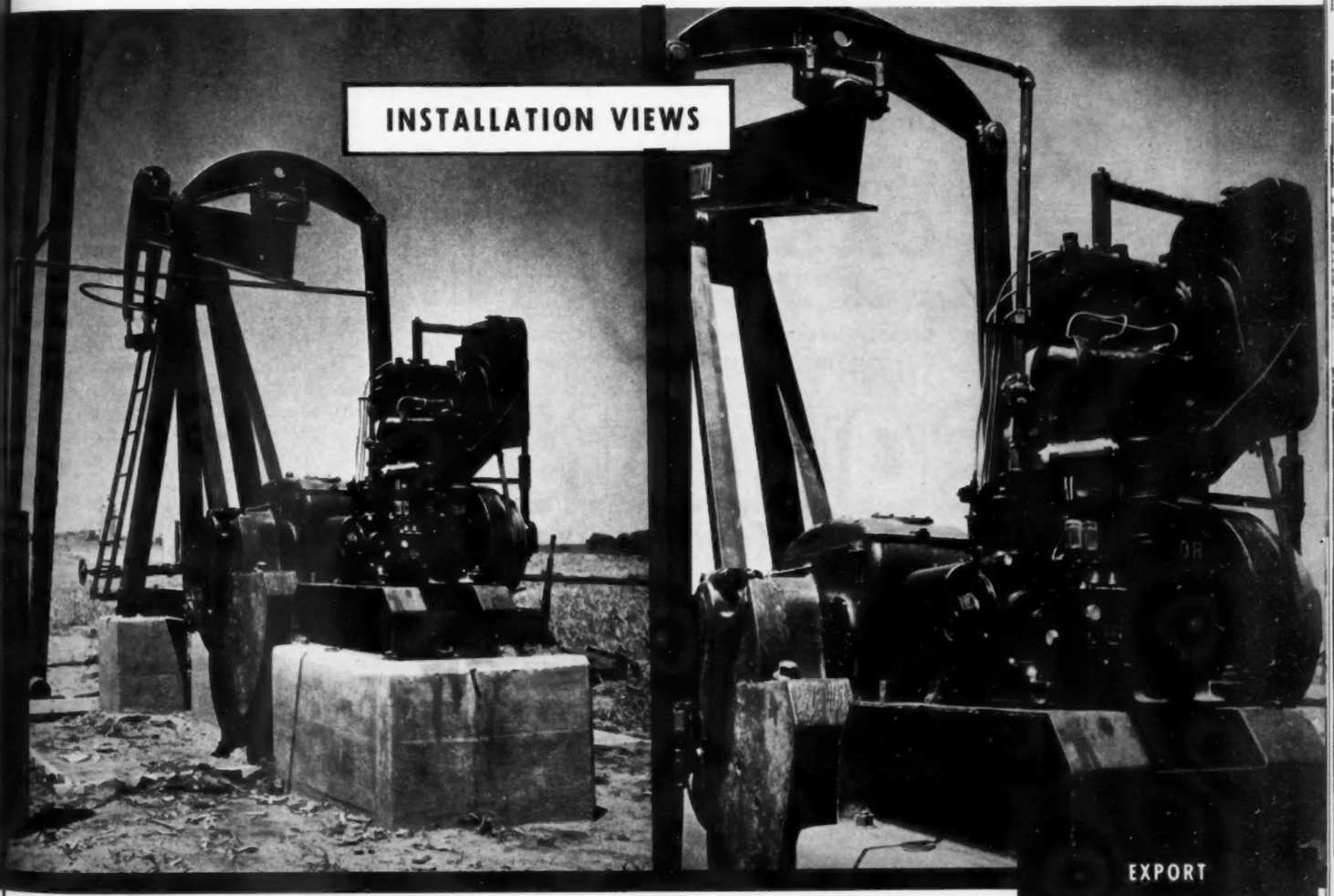


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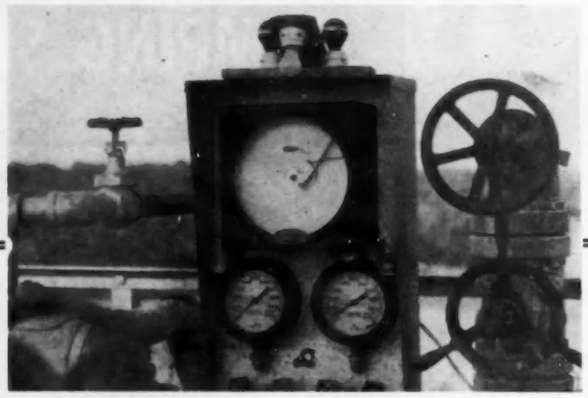

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drill hole under pressure were two of the primary control factors in this operation. The pressure had a tendency to keep the well in a normal bottom-hole condition. The mud, therefore, did not readily dry or cake at any one level, thus the condition of the hole was virtually constant.

In the event of a blow, however, the blow-box, designed and constructed for this particular well, handled the mud situation adequately. It was constructed of a combination of a high-pressure separator and several stacks from crude oil storage tanks. The mechanism in the separator was slightly revised with baffle plates to carry the heavier mud. As the flow went into the separator, pounding against the plates separated the gas from the mud and the mud dropped down into the flow line leading to the degassing unit, then to the mud storage. The several stacks, welded together, were placed atop the separator to carry the gas exhaust far enough into the air to overcome the danger of igniting. The flow to this blow-box was via a line connected to a four-choke manifold connected to the preventer set-up.

An interphone system was to be installed on the rig as it neared conclusion of this test. The purpose of this equipment would be to give the driller full spoken control over the activities of the entire set-up. His ordinary voice would be broadcast to the derrick man, fireman at the boilers and operators at the pumps, mud chemist or at any other point without his need of leaving the clutch.

While this rig set-up is intricate, it is so arranged that moving will not provide a great problem. Much of the equipment is connected in series so that it may be skidded or hauled in units.

After three weeks of conditioning hole and drilling out cement, bottom of the original hole was reached and the remainder of the footage to 9733 feet was drilled without event, despite encountering of extreme pressures. A string of 5½-inch casing was run to total depth and cemented with 2500 sacks.

The drilling of this well provided an interesting development in formation logging. Familiar to the lime areas is timing of drilling, but in connection with varied conditions found in this sector, its practice is wholly new. On previous deep wells on the George West Ranch, Jones checked formation in

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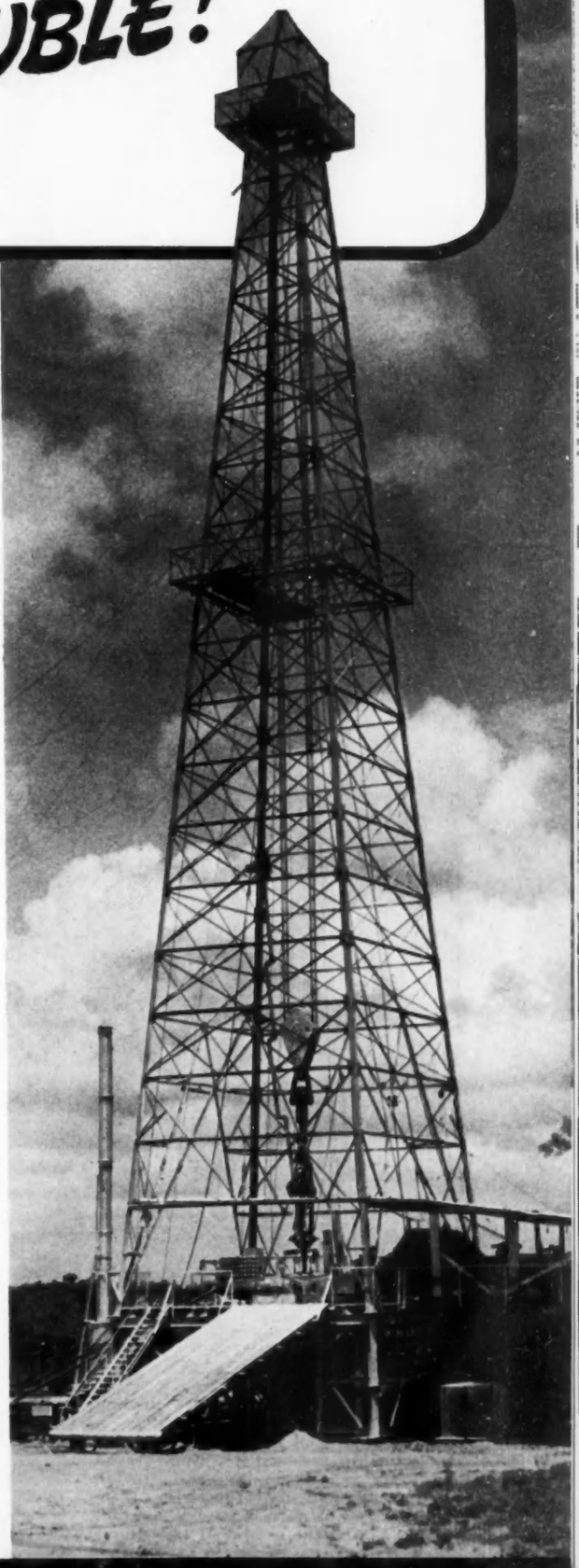
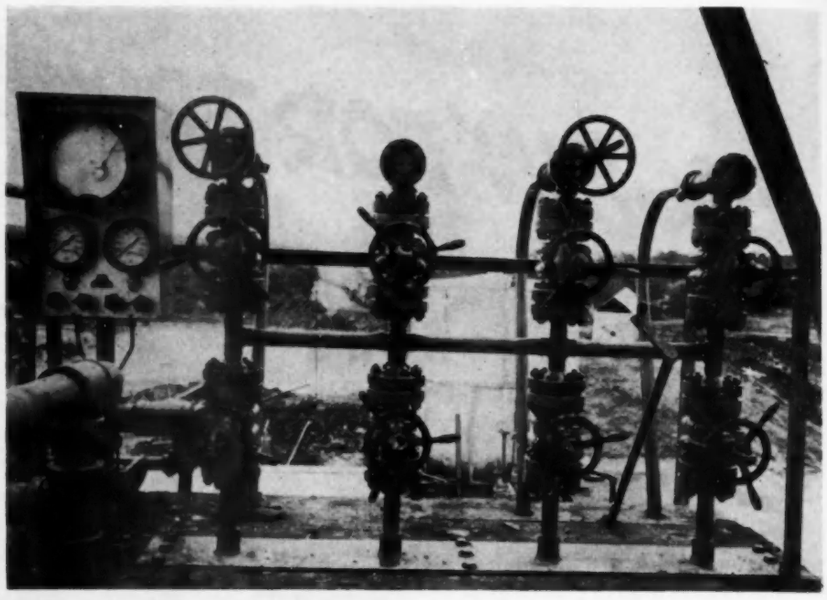
Parkersburg Portable Mud Tanks in service on Edwin M. Jones 3-B George West, safeguarding mud weight and volume



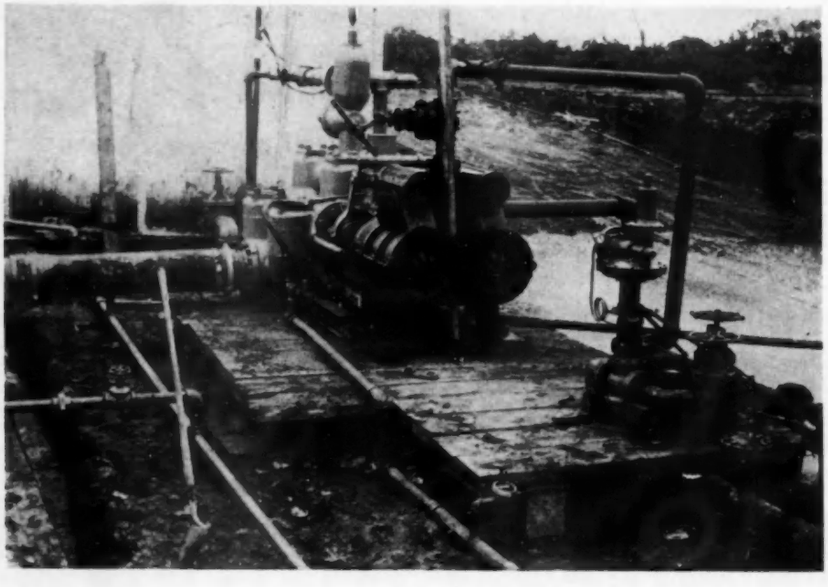
# PARKERSBURG FAULTLESS FABRICATION

this manner, each foot drilled was charted and the formation indicated by cuttings and cores also logged. The results of electrical surveys also were compared with these data, creating a composite log from all methods. On the new well, each foot of drilling was indicated. Coring or drilling was indicated, as was any other activity which would make any change in the speed of making hole. Shutdown times, reaming periods, etc., were included in the records. At the conclusion of the drilling operation, a study of the hole's condition was made on the basis of time required in drilling each foot of formation. On this basis, decision was made as to shooting points. The study apparently proved successful as indicated by the completion.



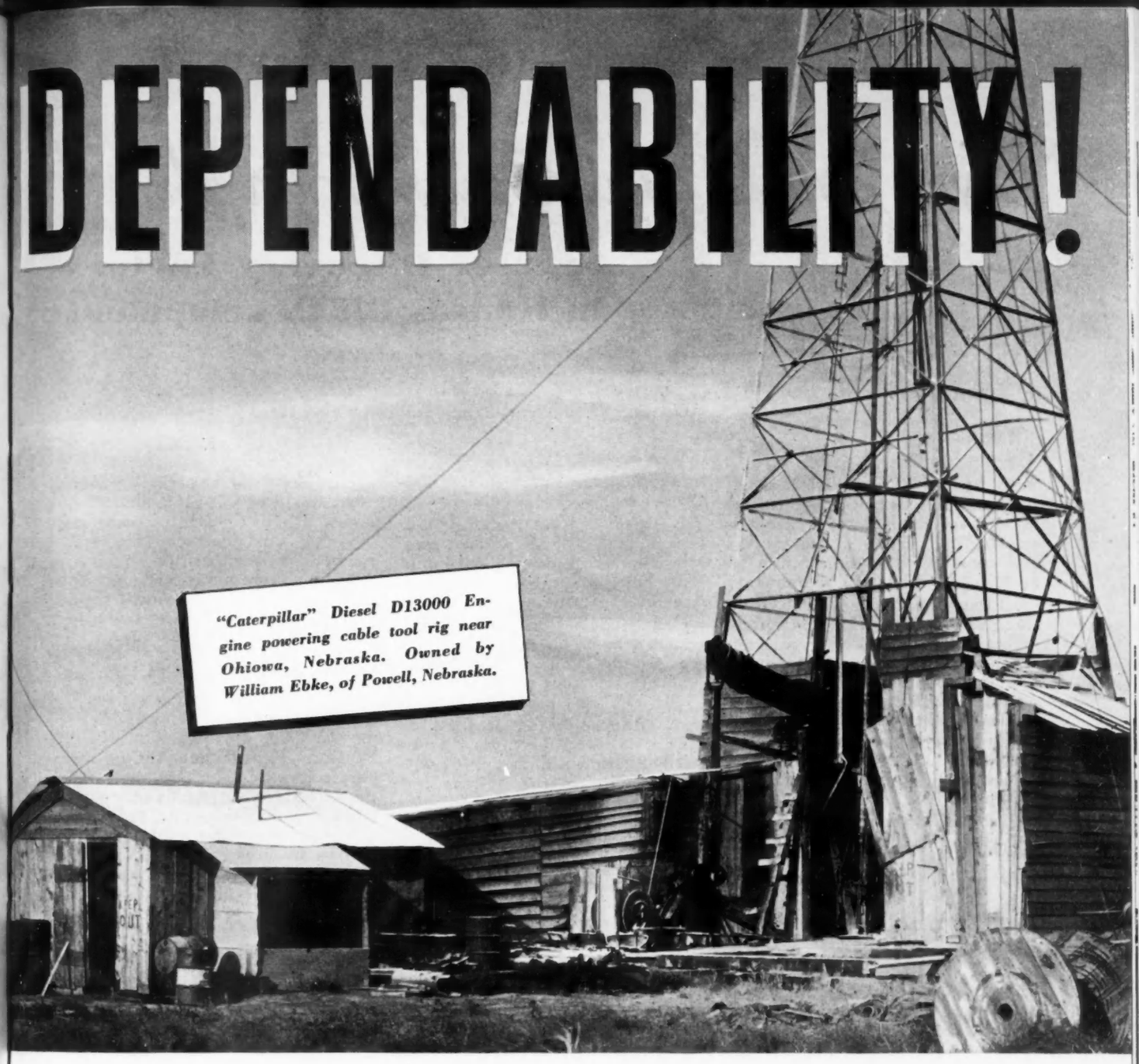
**The four 2-inch mud lines were equipped with master gates, above which a welded crossover permitted the flow to be diverted as desired through any of the four choke systems. Continued above the crossover, each line carried a second control gate, serving as block unit for the corresponding choke. Adjustable chokes permitted accurate regulation of flow through the system and enabled normal operating back pressure to be established. Dual gauges and 24-hour chart recorder showed input and efflux mud pressures.**

**From the four adjustable chokes the mud lines tied into the primary degasser, equipped with stack to carry gases high above drilling floor level. From the degasser the mud flowed to the shale shaker, and thence to further processing before return to storage pits.**



**The "brains" of the pressure drilling system. This pump, actuated by a diaphragm control, delivered extra mud just below the master gate, which served to smooth out fluctuations and provide equalized flow through the chokes. The regulator, adjustable from 250 to 800 pounds, varied the output of this pump rapidly enough to maintain a full hole as pipe was withdrawn during a round trip, and enabled predetermined pressure to be maintained on the formation.**

# DEPENDABILITY!


"Caterpillar" Diesel D13000 Engine powering cable tool rig near Ohiowa, Nebraska. Owned by William Ebke, of Powell, Nebraska.

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# Core Drill and Seismograph

## Greater Discovery Factors In Kansas Oil Development

By JOSEPH A. KORNFELD
Consulting Geologist-Engineer

INCREASING proportion of oil discoveries due to the application of both core drill and reflection seismograph marks a definite recent trend in exploration technique in Western Kansas development.

At the same time, in recent years there has been a relatively sharp decrease in the effectiveness of subsurface methods, due principally to the comparative exhaustion of true structural features over the Central Kansas uplift proper and the lack of sufficient subsurface control in rank wildcat areas lying outside of the immediate structural influence of the uplift proper.

Percentage analyses evaluating the relative importance of the core drill, reflection seismograph and subsurface methods, indicate a rise of results from the combination of the first two methods of from 13 percent as in 1939 to 34 percent during 1940. Analysis (see Table 1) arranged from data prepared by the National Oil Scouts and Land Men's Association indicate the statistical percentages.

The marked success of the core drill and seismograph, used separately, but more often in close conjunction with each other, is significant despite a generally downward trend since 1936 in the number of crew weeks and the number of companies employing these two methods. However, a time lag of from one to three years from the date of structural discovery to the date of actual resultant pool discovery must be taken into consideration in this analysis of background of pool discoveries.

Exploration problems in Western Kansas are complicated by the following basic geologic conditions in the order of decreasing importance:

A. Low relief character of erosional topographic buried prominences over the Central Kansas uplift, principally in the Cambro-Ordovician.

B. Effect of long periods of erosion in post-Ordovician and post-Mississippian time which diminished magnitude of underlying structural features.

C. Attitude of the Pennsylvanian system which obliterates structure over the pre-Pennsylvanian unconformities of the Central-Kansas Uplift.

D. Absence of major faulting, surface or subsurface, on or flanking the Central Kansas uplift (with the exception of the Abilene and Lerado regional flexures lying between that regional fold and the Nemaha granite ridge).

E. Presence of a series of major unconformities: between the pre-Cambrian and the Upper Cambrian systems; between the Cambro-Ordovician and the Pennsylvanian systems; underlying and overlying the Mississippian system; between the Permian and the Comanchean.

F. Existence of a wide variation in both stratigraphic and structural basins.

G. Presence of numerous overlaps around the Central-Kansas uplift ranging from formations as old as Cambro-Ordovician to as young as the Wabaunsee of the Pennsylvanian system.

### Fifteen-Year Survey

In a 15-year survey, a recapitulation of Western Kansas pool discoveries by methods arranged in groups of 5-year periods (from 1925 to 1940) prove a sharp increase in effectiveness of pool discoveries from surface structural methods as well as for the core drill and reflection seismograph. The discoveries by individual years and five-year periods are shown in Table 2.

**TABLE 1**

| Method | Year | |
|---|---|---|
| | 1939 (In Percent) | 1940 (In Percent) |
| Core Drill | 10 | 26 |
| Reflection Seismograph | 3 | 8 |
| Subsurface | 83 | 65 |
| Other methods | 4 | 1 |

### Maximum Discoveries Year

The year of maximum discoveries for the core drill, reflection seismograph and surface methods for Western Kansas lies during the past six years. The peak year for the effectiveness of the core-drill method in number of pools found per year was during 1935 when 11 new oil areas were discovered. The application of surface methods proved most prolific in 1936 when 12 new areas were uncovered. The reflection seismograph, either used alone or in conjunction with other methods, was most popular in exploration effectiveness during 1937, when 8 pool discoveries were ascribed to this means of discovery.

Geochemical methods made their introduction into Western Kansas oil exploration work during the 1935-1940 period. However, insufficient time has lapsed to offer sufficient data from which to draw valid conclusions on the discovery effectiveness or the relation exploration importance of this classification of exploration technique.

The value of the core drill in Kansas exploration in recent years is recently emphasized by the discovery of a major producing area in Kearney County by Stanolind Oil & Gas Company, 15 miles northwest of Lakin early in July, 1941. The combination of core-drill and reflection-seismograph methods is directly responsible for

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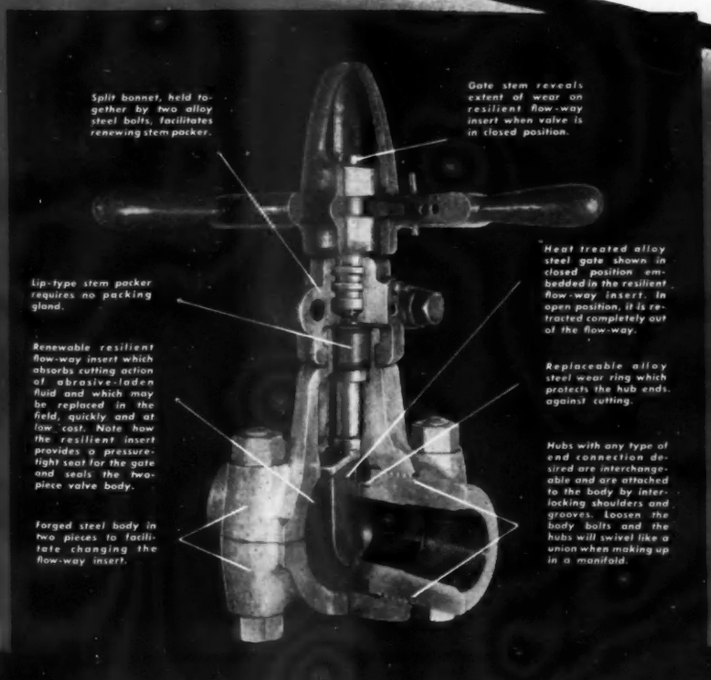
Please feel free to pass this information along to other operators, many of whom are no doubt experiencing difficulty with conventional plug valves and stop cocks.

Very truly yours,
O. W. Dyer, Sr.
O. W. Dyer
O. W. Dyer, Jr.
Otis W. Dyer Jr.


Split bonnet, held together by two alloy steel bolts, facilitates renewing stem packer.
Gate stem reveals extent of wear on resilient flow-way insert when valve is in closed position.
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Renewable resilient flow-way insert which absorbs cutting action of abrasive-laden fluid and which may be replaced in the field, quickly and at low cost. Note how the resilient insert provides a pressure-tight seat for the gate and seals the two-piece valve body.
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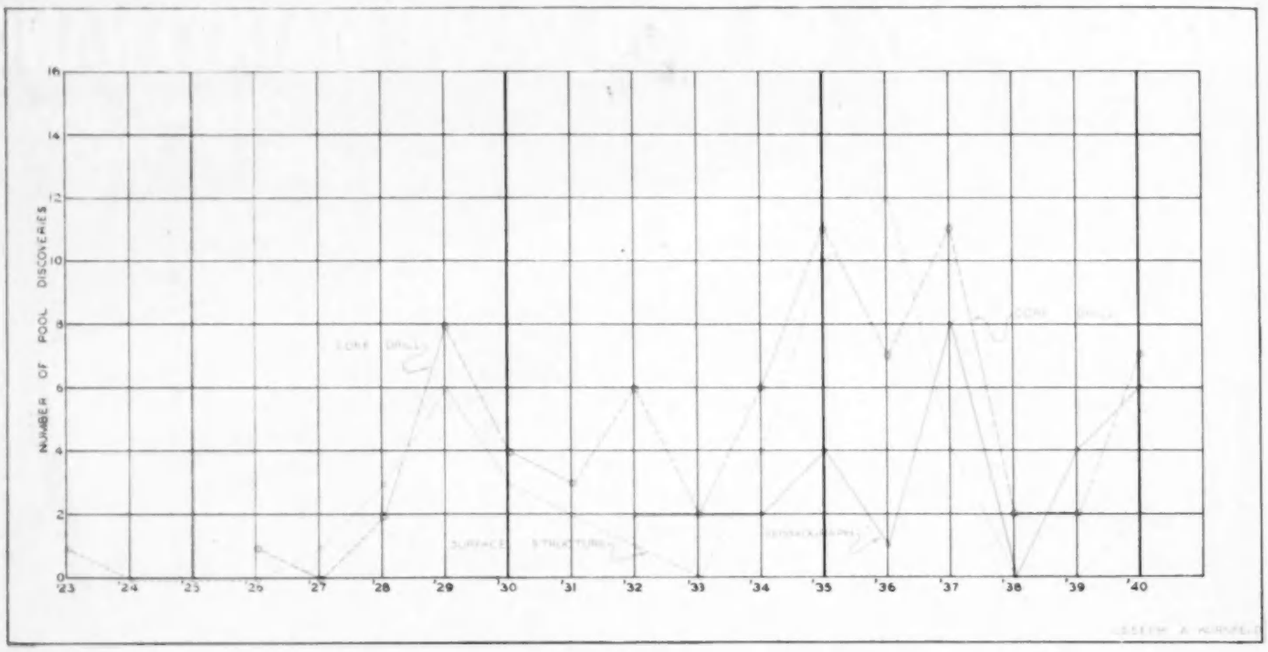



**Graph reviewing exploration effectiveness of various methods in western Kansas expressed in number of pool discoveries per year for each method employed.**

outlining the structure. A modification of this technique is illustrated by the practice of this company of following its seismic exploration in southwestern Kansas by the drilling of deep core holes located on the basis of one well to a single township, over the portion of the basin prospected. These deep core holes are drilled to depths ranging from 1500 to more than 2000 feet. In addition to the customary practice of logging the subsea position of regional key markers, special logging surveys (electrical) and geophone tests are run on each of these shallow wells for the purpose of detecting and analyzing abnormal structural and stratigraphic conditions.

The marked trend in deeper core-hole drilling in Western Kansas is shown by the graphic analysis of core-drill exploration in Table 3. This is reflected by the comparison of the number of drill holes per year as compared to the number of drill months. Whereas from 1930 to 1940, an increase of 50 percent was recorded in the number of drill months of activity by core-drill crews employed by 10 companies, a rise of only 0.012 percent was registered in the number of core holes drilled, indicating the effect of greater drilling footage per core hole drilled. However, this may be slightly altered by the extra time accounted for by difficulties due to loss of circulation in the Permian beds.

A flattening of the curve of the number of oil companies employing core-drill crews in Western Kansas is significant, indicative of the confidence of leading companies in this as a steady, time-proven method of exploration. Although 18 companies engaged in core-drill work in 1937, in Western Kansas, the number has gradually dropped to 14 during 1938, 11 during 1939, and 10 during 1940. The number of possible shallow folds that are capable of being mapped by core drill has not been exhausted by any means; this is proven by recent important oil discoveries in Norton and Phillips Counties near the Nebraska border line, and the major strike in Kearny County. A shift of exploration into far Western Kansas is expected to refocus interest on Kearny, Hamilton, Wichita, Greeley, Finney, Scott, Lane, Gray, Ford, Ness, Wallace and Logan Counties. In these counties, the core drill is certain to be employed in checking seismograph prospects first made known by reflection seismograph.

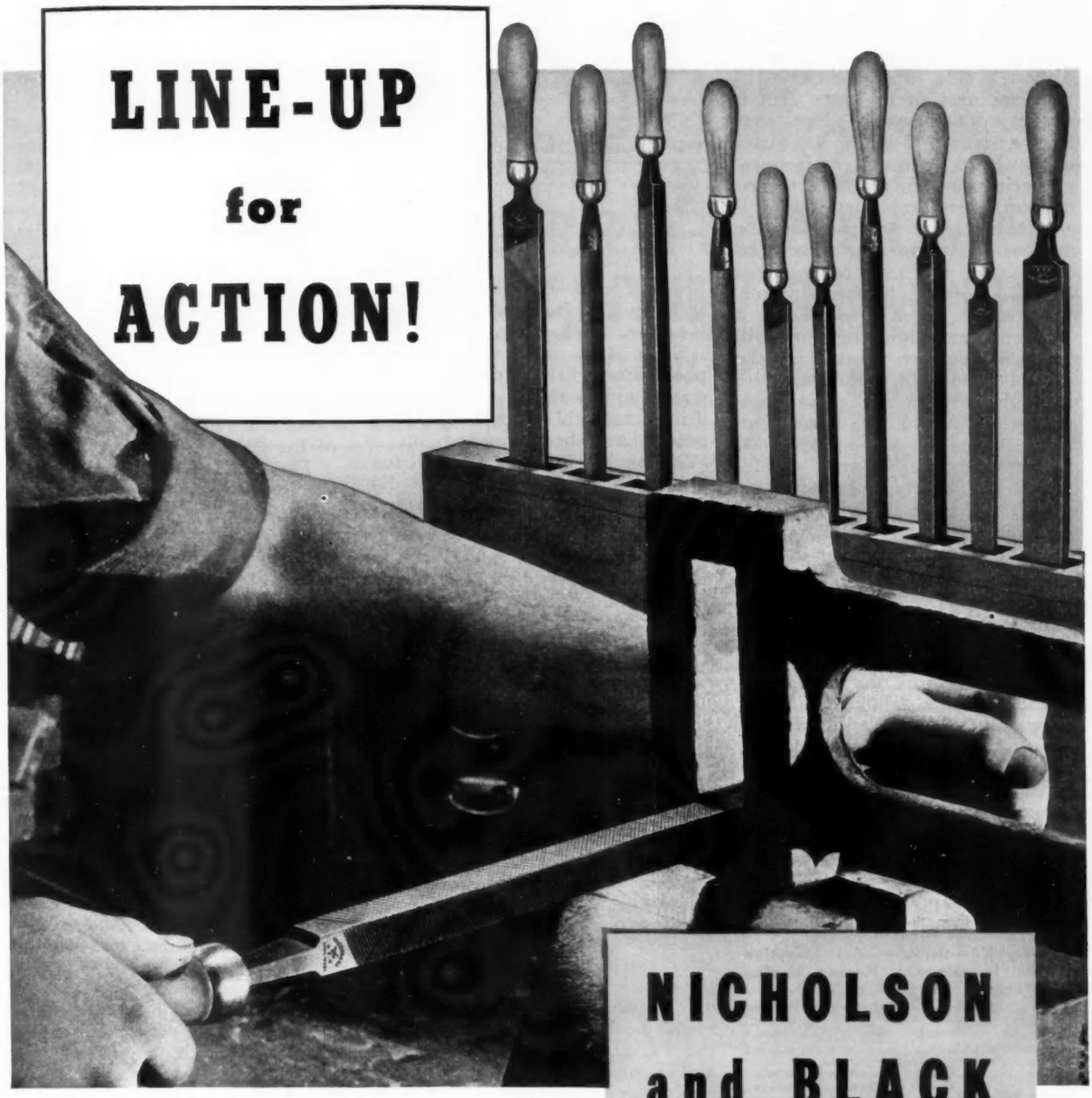
Application of core-drill exploration in Western Kansas dates principally from the year 1926 when the Gorham pool in Russell County was discovered by this method. Shell Oil Company and its predecessor, Roxana Petroleum Corporation, concentrated heavily on this method of exploration in mapping the local structures in Central Kansas along the courses of the Nemaha granite ridge, the Abilene anticline, and related parallel flexures. This exploration work was carried on persistently throughout Cowley, Sumner, Sedgwick, Harvey, McPherson, Reno, Harper, Kingman and other adjacent counties.

Total discoveries resulting from the application of methods in which the core drill figures, reached a peak in 1929 when 8 pools were discovered principally from this method employed alone. The success of discoveries from core drill fell to a low during 1933 when only 2 pools were found, a condition reflecting curtailment of exploration brought about by the general business depression and by the shift of exploration to the East Texas region.

With the rapid development of reserves in Western Kansas during 1935, 1936 and 1937, the discovery effectiveness of the core drill coupled with renewal of core-drill exploration brought about an all-time peak for this method during 1935 when no fewer than 11 pools were discovered on core-drill structures. Again in 1937, another high mark was registered when 9 pools were brought in on structures made known by the core drill, used either alone or in conjunction, with the reflection seismograph.

More recently, in 1940, core-drilled highs accounted for 7 new pools, the discovery of which must be partly credited to the work of the seismograph in pointing the way. In this respect, the seismo-

# LINE-UP for ACTION!



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graph inherently has an advantage over the core drill in the amount of area workable per crew month, although this is compensated by the exactness of the core drill in anchoring flexures to given well-known structural markers. On the other hand, the more frequent gathering of velocity data for reflection seismograph detail work is eliminating many of the question marks in subsurface correlation confronted by the seismologist working Western Kansas structural features.

Companies employing core-drill crews in Western Kansas for the years 1937 to 1940, inclusive, (data available only for this period) expended $1,305,875 for direct contracts, based on a cost of $2500 per crew month. Overall results have been largely successful, although the time lag of from one to three years from the date of structural discovery to the date of pool discovery or first production, makes evaluation of direct results by years difficult. The statistics for core-drill work for this period is shown in Table 3.

Policy of companies in leasing a group of core-drilled structures at one time is reflected in the action of Continental Oil Company in 1938 in taking acreage on 45,000 acres comprising five blocks on their core-drilled "highs" in the northwestern portion of Kansas.

Expression of land-department policy in playing one particular method consistently is a measure of confidence in the use of this technique, even as a separate means of exploration.

Since 1926 when the Gorham pool in southern Russell County was found as the result of a core-drill structural discovery, 70 oil pools have been opened up in Western Kansas on core-drill features in 17 counties. Greatest discovery success was in southern Russell County where 10 pools were found during this period. Next in discovery rank was Barton with 8 pool finds. Rice and Stafford were the locale of 7 pool discoveries in each county. McPherson County gained 6 pool discoveries on core-drill structures on sharply-folded, faulted discoveries on anticlines lying roughly parallel to the Nemaha granite ridge, although on secondary structural features. The complete arrangement by 70 core-drill producing structures found in 17 Kansas counties since 1925 is shown Table 4.

**TABLE 2**

**Discovery Effectiveness of Exploration Methods in Western Kansas During Period from 1926 to 1940**

(Core drill and seismograph frequently used in conjunction with each other, and each given credit for pool discovery in such cases.)

| Year | Core Drill | Seismograph | Surface Geology |
|---|---|---|---|
| 1926 | 1* | .. | ‡ |
| 1927 | .. | .. | 1 |
| 1928 | 2 | .. | 3 |
| 1929 | 8 | .. | 6 |
| 1930 | 4 | .. | 3 |
| | 15 | .. | 13 |
| 1931 | 3 | .. | 2 |
| 1932 | 6 | 2* | 1 |
| 1933 | 2 | 2 | ‡ |
| 1934 | 6 | 2 | 4 |
| 1935 | 11† | 4 | 10 |
| | 28 | 10 | 17 |
| 1936 | 7 | 1 | 12† |
| 1937 | 9 | 8† | 4 |
| 1938 | 2 | .. | .. |
| 1939 | 2 | 4 | .. |
| 1940 | 7 | 6 | 2 |
| | 27 | 19 | 18 |

* Date first pool discovery recorded in company records as a result of exploration by this method, or in conjunction with other exploration methods.
† Date of peak discovery year for the number of oil pools discovered as a result of exploration by this method or in conjunction with other exploration methods.
‡ Data lacking for this year.

**TABLE 3**

**Recapitulation of Core Drill Expenditures and Activity**

Sources: Year Books, National Oil Scouts and Landmen's Association.

| Year | Companies | Drill Holes | Drill Months | Total Annual Cost* |
|---|---|---|---|---|
| 1937 | 18 | 2,450 | 211 | $527,500 |
| 1938 | 14 | 1,789 | 160¾ | $401,875 |
| 1939 | 11 | 1,327 | 58½ | $146,250 |
| 1940 | 10 | 1,344 | 85¾ | $230,250 |

* Based on a cost of $2,500 per crew month.

## Core Drill Application

The value of core drilling to Western Kansas structural exploration is its success in penetrating the mantle of younger, uncomformable blankets of Cretaceous sediments to determine the attitude of the Permian rocks. The Permian and Pennsylvanian sedimentation in Kansas is a continuous generally uninterrupted sequence of deposition in the non-red area adjacent to the systemic boundaries between the two.

Another factor in favor of core-drill operation in this province over other methods of exploration is the characteristic low-relief attitude of the erosional topographic prominences in the Arbuckle dolomite on the subsurface beneath the basal Pennsylvanian unconformity. The effect of long erosional periods in the post-Ordovician and the post-Mississippian time, which has served to obliterate what little ancient topographic or structural relief may have existed, makes discovery by other methods more difficult. Consequently, the value of the core drill in intensive detail work in outlining gentle terraces on the Fort Riley is all important.

It is significant that the effect of recurrent uplift as late as Douglas time in the Pennsylvanian system has served to make convergence studies particularly applicable to refinement of subsurface methods and evaluation of core-drill structural finds. This convergence condition is apparent in the following intervals over the Central-Kansas uplift:

Top of Topeka to top of the Lansing-Kansas City lime series;

Top of Lansing-Kansas City lime series to the base of this formation;

Base of Pennsylvanian to the top of the Arbuckle dolomite.

Therefore, the evaluation of gentle structural deformations as mapped on top of the Fort Riley limestone by the core drill relates itself to the possibility of finding structural closures beneath the pre-Pennsylvanian regional unconformity.

The Fort Riley limestone is the most common geologic key horizon used in core drill exploration in Western Kansas. It is a subdivision of the Big Blue group of the lower Permian system. The formation takes its name from the name of the famous army cavalry post in Eastern Kansas. The outcrop is well exposed in road cuts west of the Augusta oil field where it outlines major structural features on the Nemaha granite ridge on the surface. The formation dips regionally to the west; however, this dip is interrupted regionally by the Central Kansas uplift, and depressed by the Dodge City basin and the Salina basin on either flank of the uplift proper. The depth to the formation is 1700 feet in Township 15s-12w, in southeastern Russell County; in central

**TABLE 4**

**Summary of Core Drill Discoveries By Counties**

**Period 1925-40**

| County | No. of Pool Discoveries |
|---|---|
| Barton | 8 |
| Ellis | 4 |
| Ellsworth | 5 |
| Harvey | 3 |
| Graham | 2 |
| Kingman | 1 |
| McPherson | 6 |
| Ness | 1 |
| Phillips | 2 |
| Pratt | 1 |
| Reno | 5 |
| Rooks | 2 |
| Russell | 10 |
| Rice | 7 |
| Sedgwick | 2 |
| Stafford | 7 |
| Sumner | 4 |
| 17 Counties | 70 |

OIL WEEKLY EDITION

# BAASH ROSS News

BAASH-ROSS TOOL COMPANY • LOS ANGELES • HOUSTON • NEW YORK

A MONTHLY BULLETIN COVERING NEWS OF EQUIPMENT AND OPERATIONS IN THE PETROLEUM INDUSTRY

# HOW TO INSURE AGAINST RAPID OBSOLESCENCE IN THE PURCHASE OF NEW TUBING BLOCKS!

## ADVANCED FEATURES TO LOOK FOR WHEN MAKING SELECTION

The *Baash-Ross Streamline Tubing Block* (2 Sheave type) as used for production work. Note flush surfaces and recessed fittings.

The 3 sheave *Baash-Ross Tubing Block* with spring-loaded Swivel Clevis for slim-hole drilling and portable pulling work.

In the average production department, a Tubing Block is something you don't buy every day. And that's all the more reason why it should be selected only with the greatest of care. Remember—the Tubing Block you buy today you'll still be using *years* from now. So make sure you pick a Block with *every* modern convenience—a Block built for the *future* as well as the present.

What are the "earmarks" of a *modern* Tubing Block? *Streamlining* for one thing. Stop and think a minute how a Tubing Block is used around a rig... usually in cramped quarters, dragging against the racked tubing one minute, against the girts the next ...and generally within the reach of workmen where projections can catch in their gloves or clothing. Think how much time would be saved—and how much safer for your men—if your Tubing Block had *no* projections on it at all—smoothed off top, bottom and sides, with nothing *anywhere* to catch on *anything*.

Well, here's one that is...the *Baash-Ross "Streamline" Tubing Block*. And when we say "streamlined" we mean *completely streamlined*—with every last bolt, pin and nut recessed into pockets cast into the one-piece outer plates. It's as smooth as a greased egg... without a single sharp corner *anywhere* to catch on *anything*—obstructions in the derrick, workmen's clothing, or what-have-you!

But that's only *one* of its unique features. Look at that guard. See how it completely protects the sheaves against careless fingers? Yet it not only can be quickly swung back out of the way for quick, easy threading of the line... but, when it's removed, it exposes the full rim of the sheave for use as a wheel in rolling the block around the rig.

That may seem like a small point... but the average Tubing Block spends as much time being moved from rig-to-rig as it does working. So think of the time—and strained backs—saved by being able to simply turn the Block on edge and *roll* it out to the truck or into the rig. Many Blocks don't have this convenience... so it's important to look for it.

▶ **And here's the newest Tubing Block feature—*versatility*.** The Baash-Ross Tubing Block is designed not only for *production* work, but also embodies unique advantages for slim-hole *drilling* and portable *pulling* jobs. For this type of work you simply pull the bottom pin on the Tubing Block (it takes only a minute) and drop a special Spring-Loaded Swivel Clevis into place. This clevis eliminates need for the regular spring hook. It is spring-loaded... free swiveling... and has a built-in locking unit that, when desired, can be locked in any one of *eight* different positions to prevent swiveling.

The Swivel Clevis is streamlined right into the Block and, because it saves much of the space ordinarily taken up by the Hook, substantially increases the effective working height of the derrick. *And show us the slim-hole or portable pulling rig where extra working height can't be used to good advantage!*

▶ **What about Construction?** Now look *inside* and see what's new with the Baash-Ross Tubing Block. For one thing, it has fewer parts than most, saving time on assembling and disassembling... *and saving money on maintenance.* Each side plate is a solid one-piece casting through which pass the sheave pin, clevis pin and top pin to insure maximum stability of the entire unit. And each sheave rolls on a *separate* roller bearing of the solid cylindrical type. These bearings have a special cage design that permits a greater number of rollers to be incorporated in the bearing than ordinarily possible. *That means increased load capacity without extra bulk!*

And quick, *positive* lubrication is assured by an individual grease fitting and grease channel to *each separate* bearing. No chance for uneven grease distribution. What's more, the fittings are recessed where they're easy to reach, but won't catch on anything!

Load Capacity? This Block is available in 1, 2, 3 and 4 sheave models with a safe working capacity of 30, 60, 90 and 120 tons, respectively (60,000 pounds *per sheave!*).

**These are only a few of the many advanced features you get in a Baash-Ross Streamline Tubing Block... but you can see that here is a Block engineered *right up to the minute*—with features that will still be new *years* from now. Let your Baash-Ross representative give you the whole story—or write us direct!**

## KEEP IT CLEAN

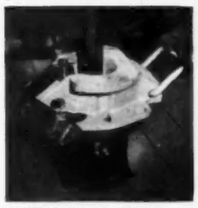
Your rig we mean. Simply install a *Baash-Ross Wire Line Wiper* and mud and oil won't cut your crew efficiency on bailing or swabbing jobs.

It wipes the line clean as a whistle ...*automatically* releases when struck by tools coming out of hole... *automatically* resets itself when tools drop back in hole.

There's nothing to fool with—nothing to release. And there's no need to flag the line or slow down as tools near top. *Saves time—keeps the rig clean!* Bulletin 12A has the details.

## SIMPLE AS ONE—TWO—THREE!

By modernizing your production equipment you can cut lost-time accidents...step up the efficiency of your production crews...get a lot more done in a day's work. And the Baash-Ross Open End Tubing Spider is the ideal tool around which to build your modernization program. It enables your crews to work easier, faster, safer... saves time setting up...saves time running tubing...saves time getting back on production. Here's the story in three quick steps...



1. With the end gate removed, simply slide the Spider into position around the tubing. No need to break connections. End gate can then be quickly dropped back in place and locked with a bolt.

2. Note dovetailed tongues on end gate that fit corresponding grooves in Spider body. These tightly lock the entire unit into one rigid assembly that will not "spread" under even the heaviest loads!

3. And the unitized slip assembly is built for extra speed and efficiency. The four slip segments are locked in *permanent* alignment —act as a single unit and *always* grip uniformly!

**ANOTHER THING—the handles on the slip assembly have a speed-latch that is faster than greased lightning. The handles lock *automatically* as they are closed around tubing... release *automatically* as they are spread open. It's positive, *fast*. Nothing to fool with, no wasted motion, no lost time! There are other features, too. Your nearest Baash-Ross representative has the details. Ask him about them... or write for Bulletin 10A!**

Pawnee County on the southwest flank of the Central Kansas uplift, the Fort Riley limestone is found at 2255 feet, 10 miles west of the city of Larned.

### Reflection Seismograph

Use of the reflection seismograph in exploration throughout Western Kansas has shown a steady decline in field activity since 1937, measured in the number of crew weeks, but is not due to continue. This decline in seismic work has been due primarily to the following conditions:

Shift of seismic work since 1937 to the Illinois basin fields;

Shift of seismic work during the period of from August, 1939, to January, 1941, to Mississippi, Alabama and Georgia;

Shift of seismic work to the Forest City basin area of Northeastern Kansas, Southeastern Nebraska and Southwestern Iowa following discovery of oil production at Falls City in Richardson County, Nebraska, during November, 1939;

Widespread geophysical exploration in Southwestern Nebraska along the northwestern extension of the Central-Kansas uplift during 1940;

Comparatively low posted prices for Kansas crude during 1938-1940.

Downtrend in per-well allowables which hit a low in April, 1940 (18.875 bbl. per well).

Recent discoveries in far-Western Kansas (Kearny County) and in Northern Kansas (Phillips and Norton Counties) however, presage a check to the rapid downtrend in reflection-seismograph field work in this district. Other favorable factors that will substantiate renewed seismic expenditures at present in Western Kansas, include:

Discovery of high-gravity Pennsylvanian-sand production 23 miles west of the nearest low-gravity lime production, reviving interest in a new group of counties on the north limb of the Dodge City basin;

A rapid uptrend in per-well allowables in the prorated areas of Western Kansas which has been brought about by an increase in the market for Kansas crude, shift of drilling development to 20-acre spacing which allows capital to develop reserves at lower costs per barrel;

Rapid expansion in pipe-line outlet to the proven areas of the Central-Kansas uplift, indicated by proposed, projected or active construction covering 198 miles of loops, replacements or extensions by Kaw Pipe Line Company, White Eagle division of Socony-Vacuum Oil Company, Stanolind Pipe Line Company and Phillips Petroleum Company, which will increase the overall pipe line capacity for the western area from 142,000 to 175,000 barrels daily.

A shift in effective market demand from the Gulf Coast region to the Mid-Continent brought about by diversion of tankers from the coastwise service to the Atlantic seaboard;

Inability of Illinois production and reserves to supply more than 350,000 barrels of daily output to the central refining district and the lack of spectacular discoveries in southern tier of Illinois counties;

Drastic failure of a marked exploration campaign in Mississippi to uncover any major pool discoveries;

Lack of major discoveries in the Forest City basin;

Lack of discovery of commercial oil or gas production in Southwestern Nebraska;

A reduction in the rate of geophysical exploration in the northern Great Plains basin on the American side (North and South Dakota, Eastern Montana, and Northeastern Wyoming);

Relatively shallow depths to semi-proven production on and flanking the Central-Kansas uplift.

One progressive seismic exploration firm operating in Western Kansas since 1934 "found that very satisfactory work could be done mapping the top of the Cimarron anhydrite of the Permian system. This reflection was the outstanding event on the seismogram and could be correlated reliably for considerable distances. It has been mapped at depths of 800 feet, an unusually shallow mapping surface for seismograph work anywhere.

"From 1935 to 1938, considerable work was done throughout the Central-Kansas uplift, with a special emphasis placed on the anhydrite horizon.

"Present prospecting trends are manifested by two types of seismic application. The first one is an attempt to find extensions to known fields, or new ones in areas which have been extensively explored by drilling. Here the anhydrite picture is inadequate and ineffective because of the unconformities present in the geologic section ranging downward from the Permian to the pre-Cambrian. Consequently, new techniques have been developed for satisfactorily working horizons below the anhydrite.

"During the period of early seismic exploration in Kansas, it was known that several limestones would reflect below the Permian anhydrite; namely, Howard, Topeka, Lansing-Kansas City series, Viola, Simpson and Arbuckle.

"Locally, near the Central-Kansas uplift, the reflecting surfaces represented by these stratigraphic breaks were generally discontinuous, making correlation extremely difficult, if not impossible, in many instances. By continuous profiling, the reflecting characteristics of these horizons were ascertained, and correlation shooting was justified only after considerable continuous profiling experience.

"At the present time, there is a need for detailing the section below the Permian. This can be accomplished by continuous profiling and by trace analysis. Trace analysis is a method whereby each phone position is utilized as a depth point, and all reflecting points for each phone position are plotted on cross sections. These detailed cross sections throw considerable light on the structure of the deeper horizons, even though no one reflecting surface is continuous over the area mapped.

"Northward along the Central Kansas uplift, the second prospecting problem at present appears to be one of searching for stratigraphic traps or for pinch-outs on the flanks of the uplift. It is not possible by seismic profiling, to determine definitely where a formational member 'pinches out,' but one can observe the divergence of the reflection intervals which may suggest where such a condition might exist.

"Undoubtedly, the seismic programs now being operated in Northwestern Kansas and Southwestern Nebraska are largely concerned with the interval changes in the geologic section. This information is obtained by shooting detailed cross sections and using trace analysis where such a procedure is indicated."

(Note: The writer wishes to acknowledge assistance from Tom Brownfield, Tulsa, Carter Oil Company, statistical section; from Clare Coffin, of the exploration department, Stanolind Oil & Gas Company; from Stanley W. Wilcox, Wichita, of the Seismograph Service Corporation, and from William L. Ainsworth, Wichita, Western Exploration Company, for core-drill data.)

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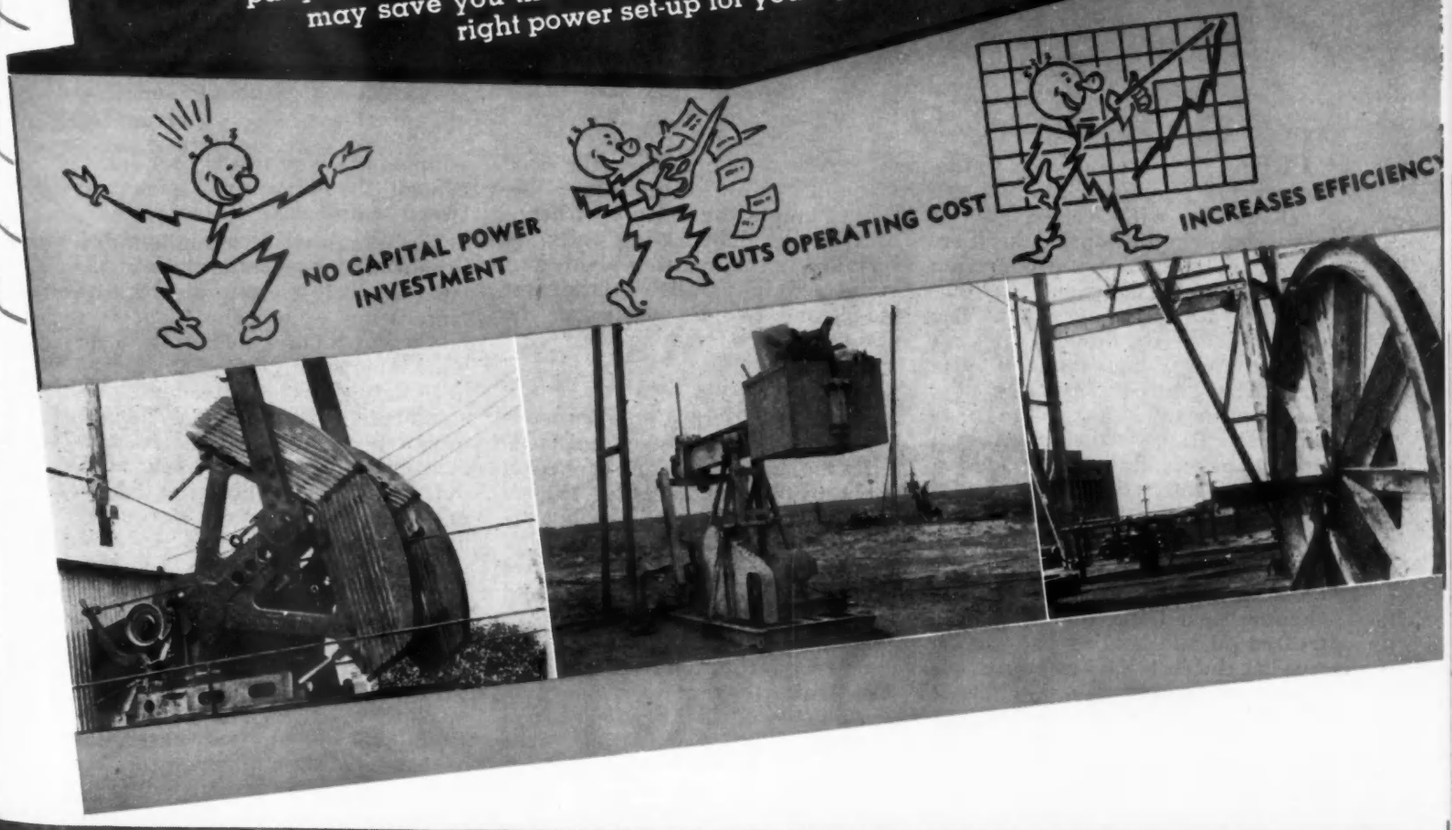


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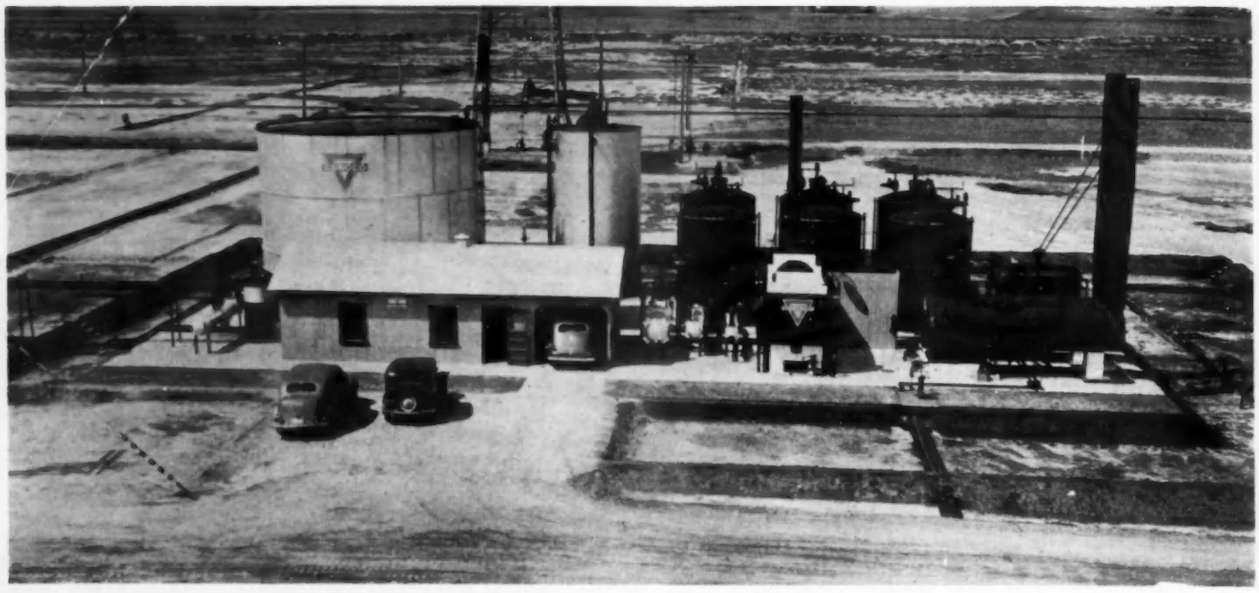


Continental Oil Company's dehydration plant at Seal Beach, California

# Two-Stage Automatic Electric

# *Treating Plant*

TREATING the oil from Continental Oil Company's leases at Seal Beach with two-stages of electrical dehydration has been reduced to full automatic operation by practical arrangement of equipment in the treating plant. The oil, produced by flowing, gas lift and pumping, cuts about 40 percent after transfer from the flow tanks to the stock tank at the treater. Water that settled out in the lease tanks is drained through a system of waste lines leading to a central skimmer to prevent any oil from leaving the properties.

The treating plant uses the counter-flow method of employing exchanger heat both for cooling the treated oil and heating the wet oil passing through the system. In addition to exchanger heat, exhaust steam from all of the plant pumps is passed through shell-and-tube exchangers both to heat the wet oil and to condense the steam for use in the two boilers. Down stream from the last exchanger in the system is a tubular, direct-fired wet-oil heater which applies the final stage of heating of the wet oil before it enters the battery of dehydrators. Six dehydrating units are installed in this treating plant, four connected in parallel in the first stage, and two in parallel in the second stage of treating.

### Gathering System

A system of transfer lines leads from the various lease tank batteries to the treating plant, carried on concrete piers and trestles to prevent contact with the highly corrosive soil. The leases here are below high tide from the sea but are protected by a system of levees and dikes along the channels and fingers of the tidal flats. The oil is pumped in rotation from all the lease tanks to maintain an adequate working level in the 3000-barrel stock tank at the treating plant which receives the wet oil through a connection near the tank floor, and which is withdrawn through a similar connection nearby. The pumping-out line, however, has an adjustable swing inside the tank to control the withdrawal point between sediment and oil.

The pumps used to handle the oil in and to the several stages of the treating cycle are steam-driven reciprocating units. The plant feed pump which takes suction from the adjustable swing in the stock tank is 10 x 10¼ x 12, controlled by instruments to handle a definite quantity of oil to maintain constant operating conditions throughout the system. This pump delivers the wet oil through two shell-and-tube exchangers operated in series, counter-flow to the hot water withdrawn from the six dehydration units. The temperature leaving these exchangers depends largely upon its initial temperature when pumped from the stock tank, but the hot waste water from the dehydrators enter the exchangers at a temperature of 172° F.

From the waste water exchangers the wet oil passes to a gun barrel which is equipped with a

# *Oil* FOR NATIONAL DEFENSE

FROM the days of the Drake well to the present, the American Oil Industry has met every obstacle and will, in this emergency, continue to do its job and fulfill its responsibility to its country.

However, the petroleum industry has not worked alone in its accomplishments. **American manufacturers** have met, and in many cases anticipated its every need; have evolved, designed and produced the tools, methods and equipment used in every branch of the great oil industry.

In order to provide the meeting place of these two groups, **The International Petroleum Exposition** will hold its **Twelfth Oil Show** in **Tulsa, May 16th to 23rd, 1942,** where scientists, engineers, and technicians of the manufacturing and petroleum industries may compare, discuss, plan, and test the equipment which will insure **Oil for National Defense.**

**For further information write: Wm. B. Way, General Manager International Petroleum Exposition, Tulsa, Oklahoma, U.S.A.**

# INTERNATIONAL PETROLEUM EXPOSITION

## TULSA, May 16-23, 1942

syphon water bleeder to remove any free water before it enters the remainder of the treating system. A second charge pump, 10 x 10¼ x 12 takes suction from the gun barrel near the top and discharges to three exchangers operated in series. Hot dry oil flows from the dehydration section through the first unit in this battery to pipe lines leading to coolers and shipping tanks. The next two exchangers are operated with exhaust steam from pumps.

The next unit in the system is a direct-fired tubular wet-oil heater constructed with tubes made from three-inch drill pipe, using two banks in the top section in parallel and the remainder in series. A third bank is laid across the top of the combustion chamber, followed by identical banks on each side connected to an outlet line leading directly to the dehydrators. Fuel pressure reducing and controlling valves and instruments meter the gas to the burners to maintain the desired heater outlet temperature. Entering the heater from the steam exchangers with a temperature of 151° F. the oil is raised in its flow through the banks of heater tubes to an outlet temperature of 182° F. Maintenance of furnace, or oil heater outlet is obtained with automatic temperature controlling instruments which actuate the feed valves in the mixers at the burners.

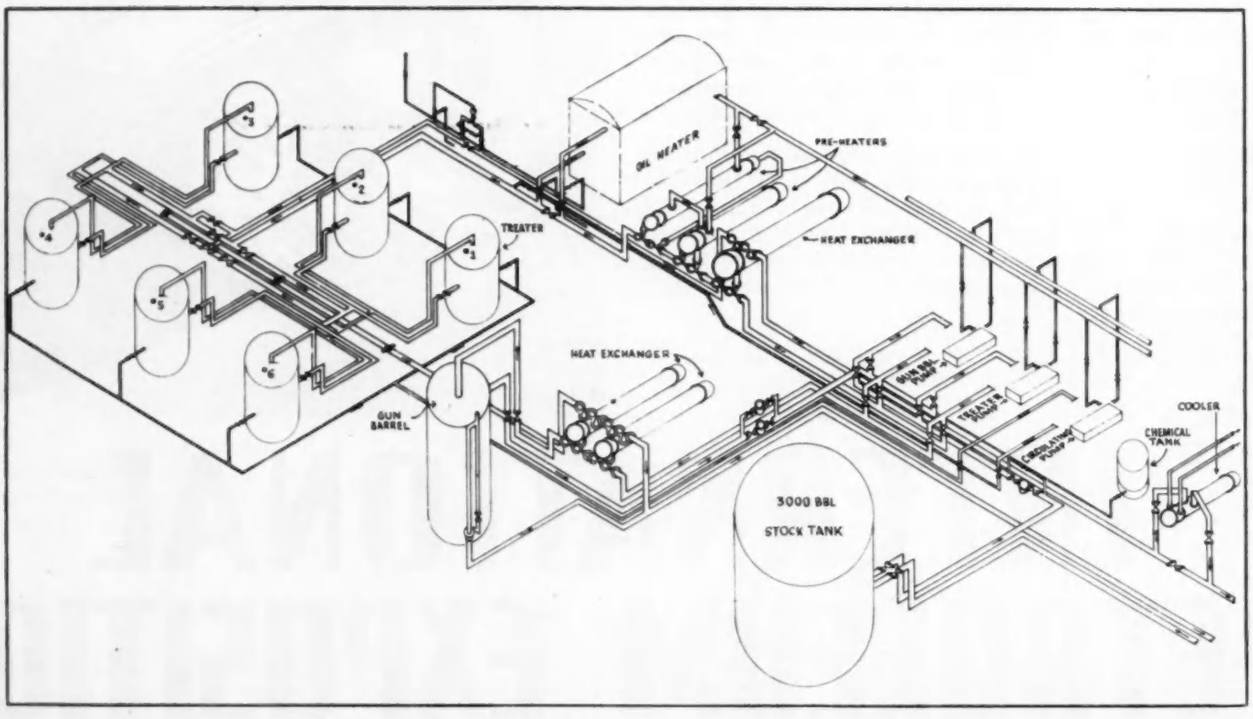
Piping from the oil heater is carried in a concrete trench to the battery of four dehydrators where a header is used with separate dehydrator feed lines for parallel operation. In the conventional manner, the wet oil enters the side of the units to flow upward through the zone of active dehydration. Water separated from the charge is released from the dehydrating units by liquid-level controllers that discharge into a common line leading back to the hot-water-to-wet-oil heat exchangers.

A side stream of partially treated oil is pumped from each unit by a 7½ x 8½ x 10 reciprocating pump which recirculates the oil withdrawn, pumping it back to the system in the wet-oil line down stream from the direct-fired wet-oil-heater outlet. Taking suction on the treating units on the opposite side from the main charge inlet nozzle, recirculating a portion of the partially treated oil reduces the zones of quiescence that prevents building up of an emulsion pad between the water and oil in the vessels. Removing a portion of the material from the treaters reduces the amount of fouling of electrodes so that excessive discharges of current are eliminated.

The oil from the four treaters operated in parallel is reduced in cut to about 1.4 percent. To reduce this amount to a minimum, the outlet of each of the four treaters is connected to a common header that leads to the two units in the second stage. These two units also operate in parallel, using the same hook-up and direction of flow as the four primary units. No extra heat is applied to the oil, but the recirculating pump takes suction from the back of these two treaters at the same point as it does from the four primary units. The outlet from the secondary treaters is connected to a header that leads to the dry oil line attached to the charge to treated oil heat exchanger. Passing from this exchanger with a temperature of about 132° F. the clean oil is cooled in a final shell-and-tube unit to about 100° F. with salt water pumped from a nearby channel through the tubes and out to waste. The oil then flows with a cut of about .2 percent to the battery of shipping tanks.

Steam for pump operation is produced by two oil-field-type boilers which use condensed steam for boiler feed water. Since the temperatures obtained on the exhaust steam is sufficiently low for total condensation, the only water required for make-up is the small quantity replacing natural loss through the system. Automatic stoking with gas is obtained with instruments on the fuel line and in the main steam header, which are synchronized to maintain the desired pressure, and level-controlled boiler-feed pumps supply the correct volume of water.

**Layout of Continental Oil Company's dehydration treating plant at Seal Beach**



# CHECK THESE FEATURES OF

# LANE-WELLS *Olympic* PACKERS

1. **Dove-Tailed Slips (Types "AO" & "BO")**
2. **Smooth operating Slips and Cone.**
3. **Four or More Multi-Setting Rings, to meet formation testing specifications.**
4. **Free-Wheeling Cage Assembly.**
5. **Large Inside Diameter of Mandrel.**
6. **Reduced Swabbing Action.**

Lane-Wells makes available to oil well operators in every field the original "Olympic" Packer design features constructed to the same high standards of materials and workmanship that have characterized Olympic Products.

Lane-Wells will build "Olympic" Packers to deliver dependable performance under severe operating conditions with special application for formation testing and gas and fluid flow device work. Check the design and operating features of these "Olympic" Packers and compare them with your own specifications of packer requirements. Like all Lane-Wells products, you'll find they measure up.

*"Olympic" Type "AO"* is a production type Packer. Dove-tailed slips eliminates catching or hanging up when the Packer is moved through a milled window in the casing.*

*"Olympic" Type "CO"* is a thin-wall Packer with special applications to oil and gas flow-device work available as small as 2¼" O.D. with 1" inside diameter.*

*"Olympic" Type "BO"* is a circulation type Packer designed to move through heavy mud without swabbing.*

* The addition of "O" to the "Olympic" Type classification is necessary to differentiate them from Lane-Wells Quinta-Seal Packers.

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LANE-WELLS — TECHNICAL OILFIELD SERVICES — *EVERYWHERE*

# Proper Direction of Crank Rotation Is Important

By FLOYD SWINDELL, Consulting Engineer

MANY manufacturers of oil-well-pumping equipment do not specify direction of crank rotation in their installations, and in the field there seems to be no general understanding of this problem. Most speed reducers are so designed that the driven sheave can be placed on either end of the high-speed shaft, so it is not surprising that many installations of this type are being operated with the crank rotating in the wrong direction. Rotation in the wrong direction may result in the use of from 3 to 10 percent more power than is necessary, and in excessive bearing wear due to the induction of unnecessary friction. By the use of a simple rule anyone involved in this problem may determine the proper direction of rotation.

A large number of different makes of units are available and in these there occur many combinations of bearing relationships and working distances. The distance from the hanger bearing to the center or saddle bearing may be the same as from the saddle bearing to the upper pitman bearing or it may be less; the hanger bearing may be in line with or above the saddle bearing and the upper pitman bearing may be above or below the line of the saddle bearing or all three may be in line. No attempt will be made here to discuss these various combinations in detail since to do so would involve a lengthy discussion and would be aside from the subject.

Figures 1 and 2 are diagrammatic sketches showing the principles of the units designed with hanger, saddle and pitman bearings in the same plane. In these drawings the front end of the beam and the hanger bearing have been eliminated but in this design it is intended that the working distances are the same or nearly so. In Figure 1, if the distances AB and CD are equal or nearly so, the load which is picked up at the point W in clockwise or forward motion occurs when the pitman is at an acute angle "O" with the line AB which is the center of the walking beam and as the wrist pin approaches the point where a well normally develops its peak load this angle becomes more acute, thereby creating unnecessary friction in the pitman and saddle bearings. It is a well known fact that in the use of the lever, such as is the walking beam of the ordinary pumping unit, the greatest leverage is obtained when force applied to the lever is at right angles to it. As this angle becomes more acute or more obtuse, a greater amount of force will be required to lift the same amount of weight on the other end of the lever. It therefore follows that, as shown in Figure 1, if the load be handled in clockwise rotation, the counterweights will have less leverage than would be the case in counter clockwise rotation.

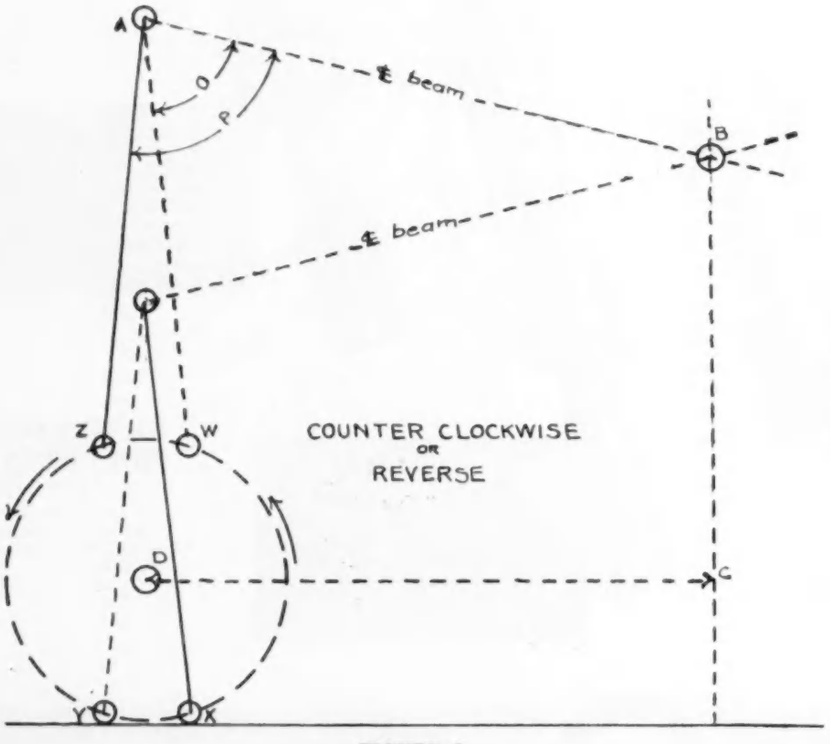



FIGURE 1

If the load be picked up in counter clockwise rotation at the point Z, angle P is slightly acute but as the point is reached where the normal well load peak develops, this angle becomes a right angle, giving a minimum amount of bearing friction and resulting in maximum leverage from the counterweights. The counterweights are picked up at point X where the angle between the pitman and the center line of the walking beam is slightly obtuse but changes to a right angle a few degrees beyond the point X. This unit should be operated in counter clockwise rotation.

In Figure 2 the distance AB is considerably less than CD, this

difference in distance being exaggerated for purposes of illustration. In clockwise motion the angle "O" is almost a right angle and becomes more nearly so as the point of peak load develops. In this same motion the counterweights would be picked up when the pitman is at an obtuse angle but this angle would tend to become a right angle near the end of the downstroke on the polished rod. In counter-clockwise motion the well load would be picked up at the point Z and angle P is an obtuse angle, becoming more obtuse as the wrist pin progresses through the upstroke portion of the cycle. This unit should be operated in clockwise or forward motion. From these illustrations it will be seen that a unit so designed that angle O and angle P are the same or nearly the same either in clockwise or counter-clockwise motion, then the uint can be operated in either direction.

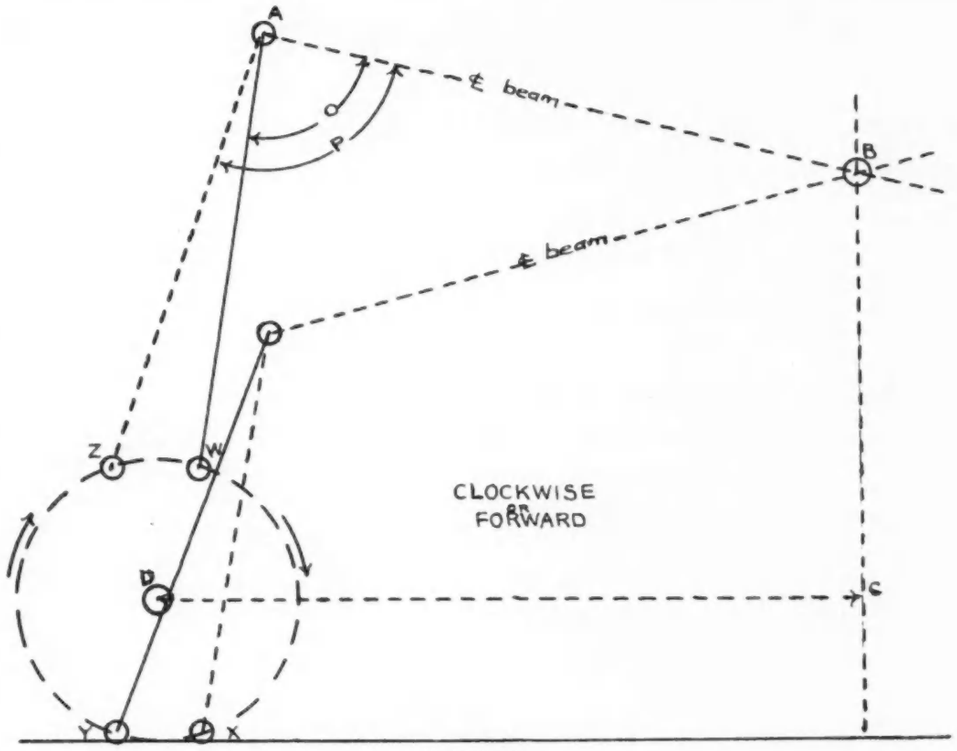



**FIGURE 2**

The rule for determining the proper direction can be stated thus: If the distance from the center or saddle bearing to the upper pitman or tail bearing is the same or nearly the same as the distance between the center line of the samson post and the center of the slow-speed shaft on the speed reducer, the unit should be operated in counter clockwise or reverse motion; if the latter distance is much greater than the former, clockwise or forward motion should be used. It is suggested that it would be a good practice for all manufacturers of this type of equipment to specify the desired direction of rotation in their installation instructions.

Table A presents the results of several tests made at wells where electric motors were used as prime movers. Instruments used in the tests included a 7-day, 15-minute-interval recording demand meter; a polyphase watt-hour meter; potential (440/110-V.) and current (60/5 Amp.) transformers; indicating voltmeter and indicating ammeter. The instruments were arranged on a portable board and hooked-up so that voltage and amperage tests could be made without interruption. Well A is an example of a design where the distances AB and CD were the same or nearly so and counter clockwise motion produced the best results. This test showed a reduction of .72 horsepower in the amount of power required and a saving of 12.96 k.w.h. per 24 hours. Well B is an example of a design wherein the direction of rotation made no appreciable difference. Well C is one of the best examples that has come to the attention of the writer. Here a difference of 2.00 k.w.h. was shown in the demand per hour and a reduction of 1.77 horsepower in the amount of power required. This is a possible saving of about 45 cents per 24 hours by operating in reverse motion. Well D is another example of favorable results from forward motion and Well E is an example wherein reverse motion produced the more favorable results. In the data produced in the above tests there is evidence that in cases where a reversal of rotation resulted in lesser power demand, the amount of fluid was increased at the same number of strokes per minute.

The savings which are indicated in the tests, in some instances are very minor but to them should be added the economy of lesser bearing wear. Most certainly, the original cost of installation is no greater where equipment is properly installed and any savings that may be effected by proper crank rotation should not be overlooked.

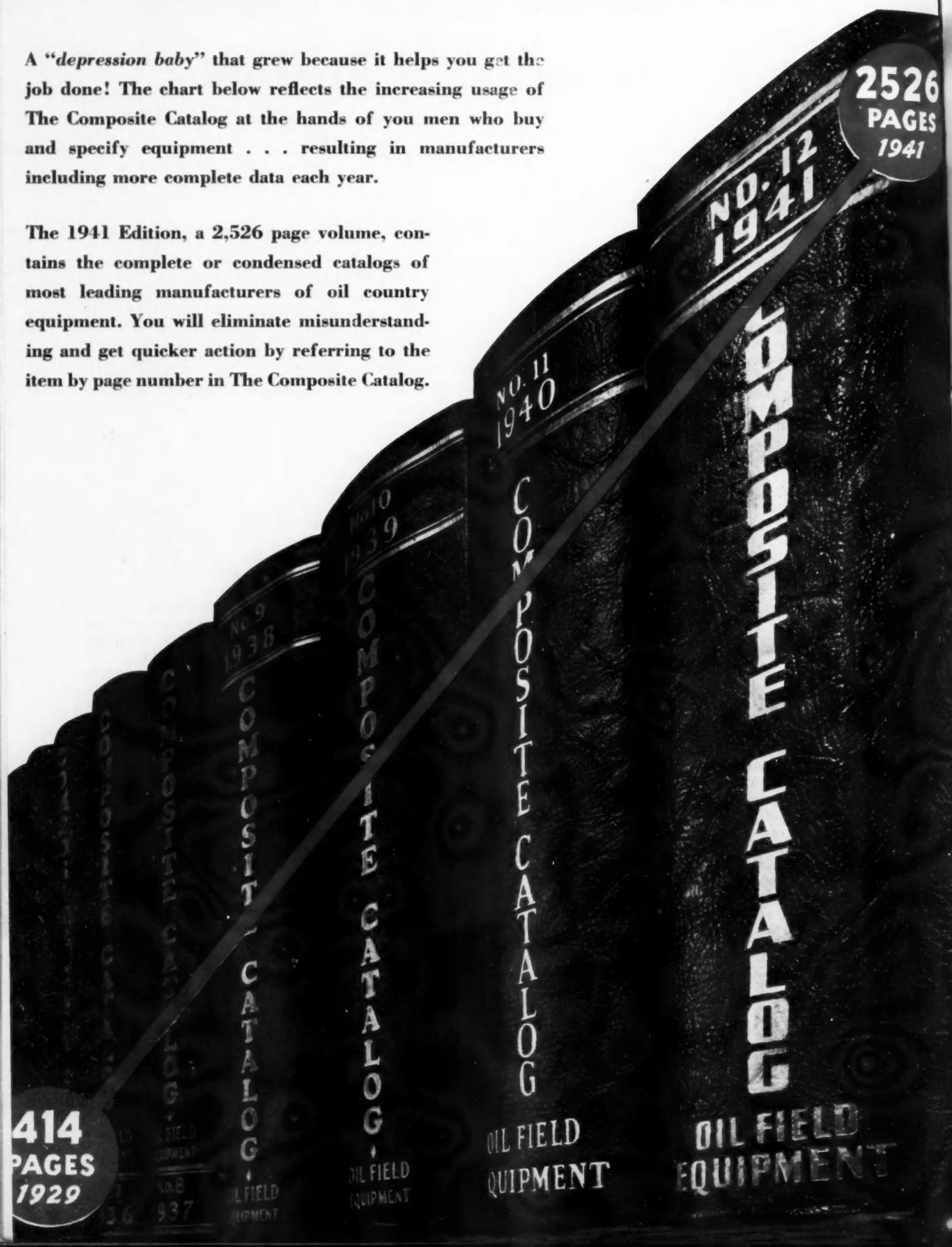
**TABLE 1**

| Well | Depth, Feet | Operating Conditions | Test Hours | Production | | Average Power Consumed KWH Demand /Hour | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Oil | Water | Fwd. Motion | Rev. Motion | Difference |
| A | 2300 | 20—34" SPM—Rig Front | 27 | 546 | .. | 5.4 | 4.86 | 0.54 |
| B | 2294 | 22—34" SPM–Gear Unit | 72 | 1176 | .. | 7.4 | 7.3 | 0.10 |
| C | 2300 | 22—34" SPM–Gear Unit | 24 | 599 | .. | 7.53 | 5.53 | 2.00 |
| D | 2302 | 20—52" SPM–Rig Front | 27 | 650 | .. | 15.60 | 15.82 | 0.22 |
| E | 2255 | 25—30" SPM–Rig Front | ? | ? | ? | 7.65 | 7.35 | 0.30 |

# GROWING BECAUSE IT SERVES A NEED

**A "*depression baby*" that grew because it helps you get the job done! The chart below reflects the increasing usage of The Composite Catalog at the hands of you men who buy and specify equipment . . . resulting in manufacturers including more complete data each year.**

**The 1941 Edition, a 2,526 page volume, contains the complete or condensed catalogs of most leading manufacturers of oil country equipment. You will eliminate misunderstanding and get quicker action by referring to the item by page number in The Composite Catalog.**



# Portable Unit Measures Gas For Gasoline Content

SALE of gas at the separator, in those fields where the liquid hydrocarbon content makes gasoline-extraction plants profitable, is an item in lease management which is closely checked by producer and gasoline-plant operator alike.

In the Oklahoma City field, Phillips Petroleum Company has developed a compact and highly accurate test unit which it mounts in the rear of coupe model test car, and which is taken direct to the well site and tied in to the gas line at the separator, obtaining and recording the gasoline content at that point. These determinations are required by plant operators every three months on wells tied in to their collecting mains.

The plant as developed is said to be as accurate as a charcoal test and considerably faster. At the gas flow line connection is made with the test unit through a short extension with usual control valve. The gas is taken from a side nipple at the top of a short vertical section, into which the gas enters near the mid section, with space at the bottom for the accumulation of such liquid as may be extracted by initial expansion of the gas as it leaves the flow line.

From the drip the flow is through a short length of hose to the inlet of the test unit, which, insofar as equipment and stages are concerned, is a miniature natural gasoline plant, operating on the compression system.

Mounted in the coupe back of the driver's seat are a gas scrubber, a two-stage compressor (consisting of a vacuum pump and a high-stage cylinder) gas meter, pressure gauges, mercury manometer, filter and condenser.

After a metered quantity of gas has been processed through the plant and the gasoline extracted and collected in a graduate, the liquid is heated by means of car engine temperature to the standard 60° F. and the volume in cubic centimeters at that temperature read off.

Complete determinations for a thousand feet of gas are not required, the degree of accuracy obtained being so high that smaller quantities may be extracted and their readings multiplied by the proper constant to convert the readings into quantity recovered per standard volume of gas.

Under the turtle deck of the car are carried the necessary supplies and fittings for conducting a series of tests while the car is on the road and in addition standard laboratory equipment for determining the amount of air entrained in the gas.

Use of a mobile testing unit such as the one described permits actual field tests of gasoline content to be made at the well, without possible loss through evaporation or change from initial conditions, avoids the collection of samples and the possibility of wide variations through errors entering the working with small quantities of gas and fluids, and enables a field check of any well to be made without interfering with production in case the flow line has already been equipped for this method of testing.

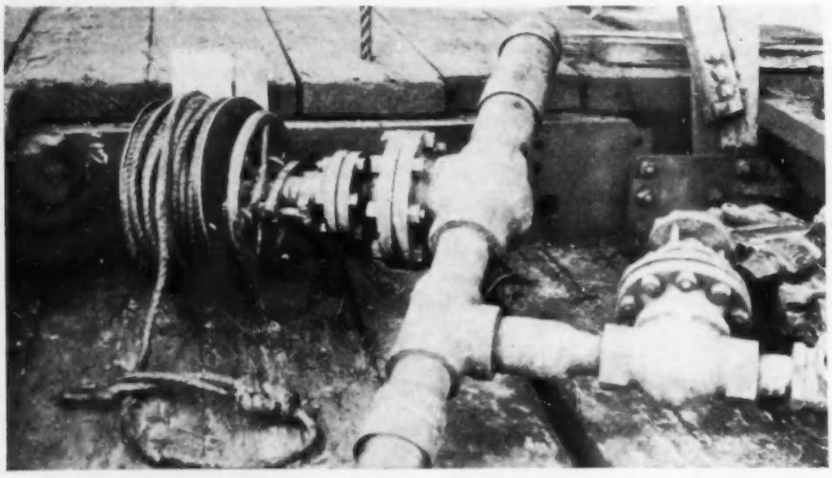
**Compact miniature natural gasoline plant nested within the rear body space of the test coupe includes gas meter, two-stage compressor for vacuum and pressure determinations, scrubber filter, condenser and all necessary gauges and manometers for field gasoline determinations in samples from well flow line.**

**Valve, vertical drip and short section of high-pressure hose tie the portable test plant directly to the gas flow line and permit accurate determinations to be made of hydrocarbon content as the gas enters the collecting system of buyer.**

# Practical Operating Hints for

## 1. SAFETY

### Tubing Master Gate Closed from Derrick Floor by Using Spooled Soft Rope



**Spooled rope provides a means of closing tubing master gate from derrick floor.**

WHEN bringing a flowing well to production by swabbing, considerable oil sometimes is sprayed about the derrick, covering men and equipment alike. Aside from the disagreeable nature of such conditions in which the men must work, the possibility of a disastrous fire is ever-present, particularly when it might be a period of two or three minutes before tubing-head gates could be closed off beneath the derrick floor.

This problem was partially answered by one company superintendent in building a light steel spool that could be attached to the tubing master gate wheel. The spool was welded with 3/16-inch thick discs, approximately 16 inches in diameter, forming the sides to a hollow circular drum of similar material 13 inches in diameter and six inches wide. A large hand-hole left in the center of the outer disc made it possible to reach in and secure the other side of the drum to the spokes of the valve hand-wheel with several cable clamps.

The 3-inch area between the surface of the inner drum and the outer edges of the discs provide enough space to comfortably accommodate 30 feet of ½-inch rope. This gate, placed in the vertical tubing line just above the lead-line tee, is the last valve to be closed just as the swab is pulled up through the tubing head.

In operation, the looped or knotted end of the spool of rope is conveniently placed up above on the derrick floor. When the swab reaches the surface, bringing with it a load of fluid and the usual flow of fluid below it, the end of the rope is picked up by the nearest man, who runs with it out on the pipe walk or to the edge of the derrick. Quick action in closing the valve prevents considerable spraying of crude oil, and makes it unnecessary for a man to run down to the cellar to close gates by hand. If the well fails to continue to flow after such a trip of the swab, it is the work of but several minutes to open the valve and rewind the rope.

## 2. MATERIALS HANDLING

### Carriage to Move Heavy Objects

TO LESSEN the work necessary to shift drums of lubricating oils and other stocks in the confines of the drilling equipment and supplies yard, the welder of one company built a handy carriage.

Constructed almost entirely of sucker-rod material, the carriage consists of a four-wheeled framework on which is pivoted, by means of a horizontal axle, a bed framework which will accommodate a full-size drum. Any desired angle of inclination may be obtained and held by means of a notched bar that engages a small latch on the side of the top framework. A short extension handle gives added leverage to the operator, especially when the top movable bed is extended up almost vertically to allow the bottom edge to slip under the edge of a full drum for loading and moving.

By building a few rough jigs, the

**Movement of oil drums and other objects is facilitated by this adjustable carriage.**

# THE DRILLING RIG . . .

**Surge chamber in hydraulic circuit absorbs pressure in pulling upset tubing.**

welder was able to quickly assemble a number of these carriages for use in materials departments other than that serving the drilling department.

### 3. TUBING PULLING

## Pressures Equalized By Surge Chamber

WHILE pulling 2½- or 3-inch externally upset tubing through a blow-out preventer on flowing wells, one company found the pressure normally held in the hydraulic system back of rubber protectors often rose to abnormally high points each time the collar of a joint squeezed through the pack-off gland. A working pressure of 200 to 300 pounds, maintained along the length of each joint, would jump to 500 pounds or higher when the upset ended joint and collar came through.

Believing these suddenly changing extremes of pressure may place an undue strain on certain fittings and valve packings in the system, a surge chamber employing an air cushion was built and placed in the hydraulic circuit. It consisted of a pressure-vessel welded 4-foot length of 10-inch heavy casing, filled up to within a foot or 18 inches of the top with water. The hydraulic system entered the bottom of this chamber, so that when the tubing collars came up through the blow-out preventer, the air chamber in the vessel was compressed sufficiently so as to act as a cushion against the sudden changes in pressure.

The chamber was made to be conveniently handled by mounting it in an upright position. Four ¾-inch pipe legs support it over a square base for convenience in setting up at each well, while a pair of wheels and a bar handle make it a simple matter to move it from one location to another.

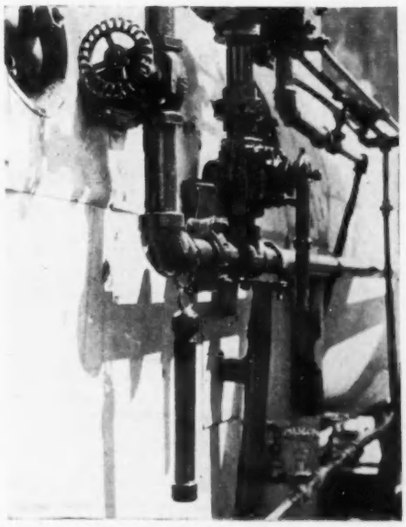
### 4. BOILER OPERATION

## Pipe Receptacle for Boiler Certificate

SINCE it is usually required that the boiler inspection certificate for each boiler be available at the boiler site at all times, the certificate sometimes becomes torn, weather-worn or even lost. Some boilermen insert the certificate in a picture frame, but quite often they also prove to be too fragile.

One company encloses the certificate for each boiler in a 10-inch section of 1-inch pipe, and sealing it with a pipe cap on each end. To the cap on the upper end a ring is welded so that the capsule can be suspended on any convenient part of the boiler.

The pipe nipple is thoroughly cleaned and all burrs removed from the inner surface before being used. By sealing the bottom cap with thread dope, and screwing on the top cap fairly tight, a safe, dependable, weather-proof receptacle is obtained, yet making the document accessible for inspection at any time.



**One-inch pipe was employed to make this tube for boiler inspection certificate.**

**This rack for lifting plugs was made from steel casing and several T-bars.**

### 5. MATERIALS HANDLING

## Derrick Floor Rack For Lifting Plugs

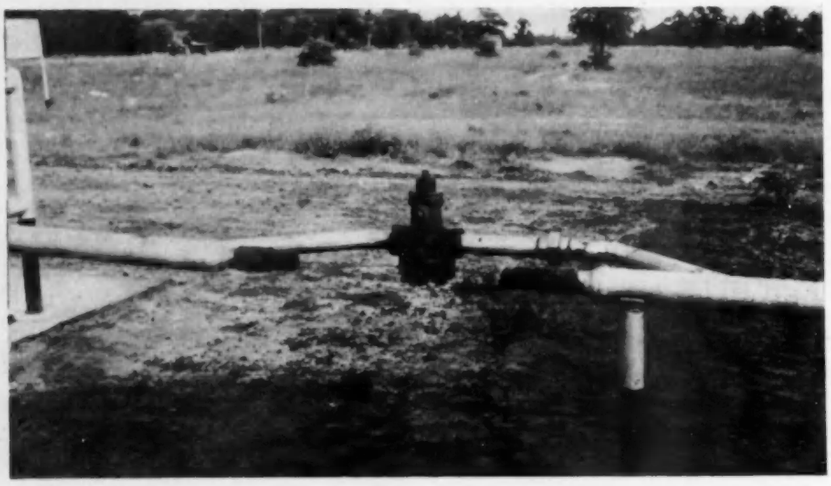
LIFTING plugs for small drill pipe may be easily racked and handled by employing a 30-inch length of 16-inch casing, welded vertically in the center of a circular flat steel base approximately three feet in diameter. A number of 16-inch lengths of T-section steel bars are welded at a moderate angle to the section of casing, allowing sufficient space between each one to permit racking two to three plugs on each barb. The top of the stand is covered with a steel plate, in the center of which a lifting bail is welded.

This rack is placed in a convenient spot on the derrick floor each time drill pipe is singled out of the hole and laid on the rack, or when joints are being singled into the hole. Use of this handy and practical device protects threads in both the plugs and tool joints from dirt or other damage, and prolongs the life of the drill string.

# Practical Operating Hints for

## 1. PIPE CONNECTIONS

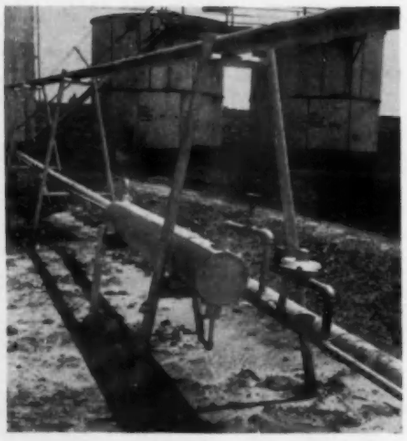
### Divergent Bypass Minimizes Expansion Stress On Connections Between Separator and Well



**This valve is mounted on a by-pass to relieve expansion stress on connections.**

BY MOUNTING on a divergent bypass the quarter-turn plug valve between well and separator, in a set-up wherein the two units are set closely together, means is provided whereby expansion of the line under temperature and pressure changes imposes no direct thrust on either well head or separator connections. The 45-degree branches, welded to the straight runs of the original line, are flexible enough at the paired direction changes to absorb linear changes in the line, and also act as vibration dampeners to prevent well or separator pulsations being communicated through the pipe to the other unit.

Installation of the quarter-turn valve on an angular bypass gives sufficient slack in the set-up so that the union may be made up without imposing strain on fittings at either end of the branch, while to remove the valve it is necessary only to rotate either branch slightly in its supporting fitting, and thus afford space enough to rotate the valve without forcing either branch out of place.



**Fluid in raw lease gas is trapped in this tank before it reaches the burner.**

## 2. FUEL HANDLING

### Tank Removes Liquid From Raw Lease Gas

BURNING lease gas in the heater used to break down salt water emulsion in East Texas crude introduces difficulty in control if the raw lease gas be used, due to the occasional carry-over of slugs of high-gravity fuel which either overheat the crude or snuff out the fire.

By installing a horizontal tank made of big-inch pipe in the line from separator to heater, the fluid content is trapped, and the expansion space thus provided absorbs pulsations in the gas flow, feeding the fuel to the burners of the heater under uniform pressure and permitting closer regulation.

A drip at the lowest point of the knockout permits drainage of entrapped fluids, a needle valve being used to enable withdrawals without unduly dropping pressure on the fuel line.

Placing the regulator between burner and knockout permits it to handle dry fuel only, and reduces fluctuations of pressure through which it must function.

## 3. TREATING

### Water Removed From High-Gravity Oil

A KNOCKOUT system to relieve the gun barrel by separating high-gravity oil from water is used by one operator in the Eureka Heights field on the Texas Gulf Coast. The body is made of a section of heavy 16-inch pipe 8 feet long, sealed on each end to form a closed cylinder, except for a 2-inch inlet and a 2-inch outlet at the top and a 4-inch drain at the bottom, each with valves to regulate the volume of fluid passing through the device.

A tripod supporting the body is comprised of a triangular steel base with sides 3 feet high. From whose vertices, 2½-inch pipes are welded to the bottom of the container. Guy lines attached to the

**THE practical operating hints for the drilling rig and production man, appearing in these features each week, are secured from oil fields everywhere and offer suggestions that will help to improve field efficiency and safety. The items give an excellent picture of the remarkable ingenuity being exercised by the operating divisions of the industry. Contributions to these features will be paid for at the rate of $5 for each illustrated item accepted. Address contributions to "The Editor, THE OIL WEEKLY, Houston."**

# THE PRODUCTION MAN . . .

**Water settles out from high-gravity oil when well fluid passes through this tank.**

top of the cylinder reinforce the structure.

The inlet pipe taps the main flow line to receive fluid from the well, and directs it into the cylinder where the water settles. At intervals, water accumulating in the bottom of the apparatus is drained through the outlet valve and piped to a salt-water pit nearby. Clean oil is directed back into the flow line and thence to the separator for further treating before entering the stock tanks. By manipulating valves, fluid may by-pass the knockout and go from the well directly to the separator.

## 4. GADGETS

### Platform for Pumper When Treating Oil

AN operator has simplified duties of his pumpers by constructing a semi-permanent platform at a convenient place on the lease where oil treating work is done. The structure is sturdily built, and, while portable, may be erected to remain permanently in one location by driving legs firmly into the ground to hold it in position.

The platform is six feet high and consists of a ¼-inch steel plate 2 x 3 feet in lateral dimensions, welded to the tops of four supporting uprights of 2-inch pipe. The platform is reached by a ladder extending from the ground at a convenient angle. The ladder is also constructed of 2-inch pipe, made of two upright joints with tops welded to the platform, and wide steel plates ¼ inch thick crossing at intervals for steps, and to brace the ladder.

The elevated platform is handy for the workers treating oil, and also facilitates work on the separators and heat-treating equipment.

**This platform, made from pipe and steel plate, aids pumper when treating oil.**

## 5. TANK CONNECTIONS

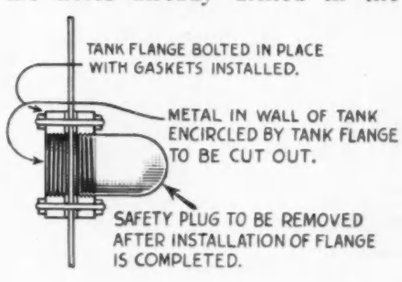
### New Line Connected To Vapor-Filled Tank

IT IS sometimes necessary to connect new lines to tanks which have been used for oil or refined products storage without expending considerable time and money to steam explosive vapors from the tank.

A safe and quick method of installing a new line is to take one half of the tank flange and use it as pattern for laying out the bolt circle, drilling the holes through the tank plate with a hand drill or breast drill, or, if available, using an air-powered tool. Do not use an electric drill on account of spark hazard.

Then, with a man inside the tank with proper gas-mask protection, install the other half of the flange connection, in which a bull plug has previously been made up. Gaskets and bolts for this connection may be made up as a unit before sending any material into the tank, light spot-welding holding the bolts in place.

With the bolts inserted through the holes already drilled in the tank, the companion flanges are quickly bolted tight, and the tank again cleared for use.


TANK FLANGE BOLTED IN PLACE WITH GASKETS INSTALLED.
METAL IN WALL OF TANK ENCIRCLED BY TANK FLANGE TO BE CUT OUT.
SAFETY PLUG TO BE REMOVED AFTER INSTALLATION OF FLANGE IS COMPLETED.

Then the circle of tank steel within the flange may be cut away with a series of drilled holes close to the flange, or with hammer and chisel, as desired, without danger of fire being communicated to the inside of the tank.

With the tank again emptied below the flange line, the bull plug may be removed from within, the connections made to the outer flange, and the new connection put in service.

When drilling through the tank steel for the bolt holes, much time and effort may be saved by first drilling a pilot hole with a small drill and then reaming to size with a bit of the proper diameter.

Pilot holes for the flange bolts may be drilled without taking the tank off duty or insuring fluid level below the projected inlet if drills with long shanks be used, and the shank utilized to plug the opening after completion of the hole. With previously prepared wooden plugs of the proper dimension handy, the drill may be withdrawn and the plug inserted with no appreciable loss of fluid, even with a full tank. The bolt holes themselves, of course, can be drilled through only when the tank stands empty.

# WIPE
## WITHOUT ANY WASH

Washing down drill pipe is now a needless expense and time-killer. With a Patterson-Ballagh Pipe Wiper this operation is performed automatically. You save water. You avoid mud dilution. You keep the derrick floor cleaner. Patterson-Ballagh originated and introduced Pipe Wipers, incorporating the same tough, resistant rubber as used in Patterson-Ballagh Protectors.

**No metal exposed.**

**No sparking hazard.**

**Makes pipe inspection easier.**

**Beaded edges add life.**

**Installed beneath master bushing.**

**Sizes, 9" to 19".**

*See Composite Catalog*

**PATTERSON-BALLAGH**
CORPORATION
Los Angeles Houston New York City

# PATTERSON-BALLAGH PIPE WIPER

*Protectors and Pipe wiped without wash*

# HIGHLIGHTS IN THE WEEK'S NEWS

## Allowables

### *Bureau August Demand Seen 92,900 Barrels Over July*

The United States Bureau of Mines last week estimated demand for domestic crude at 3,940,000 barrels a day, 92,900 barrels higher than predicted for July and 11 percent above actual demand for August, 1940, when abnormally low requirements represented a reaction from unusually high operations the preceding quarter.

The bureau anticipated that curtailment of East Coast markets next month would be less than originally feared.

The anticipated August market is under that for the 5-week period June 7 to July 12, when production averaged 3,811,000 barrels and total runs to stills 3,873,000 barrels a day, with a decline in domestic stocks of 176,000 barrels daily, indicating demand of 3,987,000 barrels.

"Progress in transportation readjustments necessitated by the withdrawal of tankers from the Gulf to East Coast movement indicates less curtailment of Gulf Coast markets in August than might have been anticipated, provided no further tanker withdrawals occur," the bureau commented. "The stepping up of deliveries by the remaining tankers in service, the shift of tankers from the California-Atlantic service to the Gulf-East Coast route, increased overland shipments, and participation in larger exports and increasing naval requirements may offset to a considerable extent the loss of Gulf Coast markets due to a curtailment in East Coast consumption."

A survey of East Coast stocks of crude and refined oils by the bureau placed them at 66,743,000 barrels on May 31, as compared to 67,733,000 barrels on the same date in 1940. The bureau estimated that total stocks increased about 2,000,000 barrels 500,000 barrels crude and 1,500,000 barrels refined) in June as compared to a gain of 5,366,000 barrels (2,295,000 crude and 3,071,000 barrels refined) in the same month last year.

The retarded rate of seasonal stock increases, it was pointed out, reflects both the transportation shortage and the high rate of demand, part of which, the report said, is probably due to an abnormal flow of products to distributor and consumer storage outside the coverage of the bureau's statistics of refinery and bulk-terminal stocks.

The bureau estimated the domestic demand for motor fuel in August at 62,500,000 barrels, an increase of 13 percent over the actual demand last year. Forecasts by principal shippers indicate that exports, exclusive of reexports of motor fuel imported in bond, will be 2,200,000 barrels.

**Bureau of Mines Forecast of Crude Oil Demand for August**

| State | Forecast August, 1941 | Forecast July, 1941 |
|---|---|---|
| TEXAS | 1,361,600 | 1,324,000 |
| California | 641,000 | 624,800 |
| Oklahoma | 492,400 | 498,500 |
| Illinois | 390,100 | 384,800 |
| Louisiana | 324,500 | 304,000 |
| Kansas | 240,800 | 225,300 |
| New Mexico | 112,900 | 108,600 |
| Wyoming | 85,000 | 88,400 |
| Arkansas | 80,700 | 77,000 |
| Pennsylvania | 48,700 | 49,300 |
| Michigan | 36,000 | 37,200 |
| Mississippi | 25,200 | 21,000 |
| Indiana | 22,100 | 22,200 |
| Montana | 20,000 | 19,900 |
| New York | 14,800 | 15,000 |
| Kentucky | 14,200 | 16,200 |
| West Virginia | 11,000 | 10,800 |
| Ohio | 10,200 | 10,800 |
| Colorado | 4,400 | 5,100 |
| Nebraska | 4,400 | 4,200 |
| Other | ..... | ..... |
| | 3,940,000 | 3,847,100 |

#### API Inventory Figures Down

Pointing out that American Petroleum Institute figures indicate that gasoline inventories declined about 3,200,000 barrels during June, bringing stocks of finished and unfinished gasoline down from 92,968,000 to 89,800,000 barrels, or 3,800,000 barrels less than the June 30, 1940, total, the bureau estimated a further decrease of 4,900,000 barrels during August.

Benzol production and direct sales of natural gasoline were estimated as 1,800,000 barrels, giving an indicated refinery production of 58,000,000 barrels, which was distributed among the several refining districts as follows:

East Coast, 7,560,000 barrels; Appalachian, 2,290,000 barrels; Indiana-Illinois, 12,380,000 barrels; Oklahoma, 3,080,000 barrels; Kansas-Missouri, 3,430,000 barrels; Inland Texas, 3,690,000 barrels; Texas Gulf Coast, 14,170,000 barrels; Louisiana Gulf Coast, 1,690,000 barrels; Inland Louisiana - Arkansas, 1,070,000 barrels; Rocky Mountain, 1,470,000 barrels; California, 7,170,000 barrels.

Estimates for crude were that natural gasoline blended at refineries would run 5.9 percent of total refinery production, or 3,400,000 barrels; the yield of straight-run and cracked gasoline will be 45 percent which, applied to the production of 54,600,000 barrels, gives crude runs of 121,340,000 barrels, or 3,914,000 barrels a day. The estimate for foreign crude runs to stills is 4,200,000 barrels; exports are placed at 3,500,000 barrels and crude to be used as fuel and losses is 1,500,000 barrels, giving an estimated demand for domestic crude of 122,140,000 barrels for the month or 3,940,000 barrels daily, allocated among the producing states as shown in an accompanying table.

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### *Texas August Allowable Set Within Bureau Estimate*

The Texas Railroad Commission announced that it would fix an August allowable of 1,404,665 barrels daily, 43,065 barrels higher than consumer demand as estimated by the United States Bureau of Mines.

Since Texas operators normally produce 3.5 percent less than the allowable assigned, the commission figured production would be under bureau estimates by about 6000 barrels daily.

The new allowable is 48,082 barrels higher than that in effect on July 19, according to commission figures. The increase is in line with the bureau estimate, which was up 37,000 barrels for August.

The increase was accomplished by allowing Texas oil wells outside the Panhandle to produce 21 days during August, one day more than they were allowed to produce during July. Panhandle wells may produce 26 days, the same as the July allowance. For the Panhandle, shut-down days were listed as August 3, 10, 17, 24 and 31. The remainder of the state will be closed down on August 2, 3, 9, 10, 16, 17, 23, 24, 30 and 31.

The largest increase was granted to the Humble field, Harris County, which was raised 570 barrels to 3588 daily. Operators requested that the field be increased in line with other piercement-type salt dome fields. There were no other increases amounting to 100 barrels, other than those which have resulted from the allowables assigned to new wells since the order for July was entered.

#### Oil for Britain

The commission has set August 10 as a day for giving oil to Britain, under provisions of a plan outlined at a statewide hearing July 16 by John Camp, San Antonio operator.

The commission's order closed all fields on that day, and those who donate their production to Britain will be given exemption from this shut-down. The commission estimated that if all operators joined, some 2,000,000 barrels would be produced.

Commissioner Jerry O. Sadler, who announced the program, pointed out that the plan has the approval and support of President Roosevelt and Oil Coordinator Harold L. Ickes.

The commission announced that operators who desire to give oil to the cause of British defense may do so by presenting their form SW 2, the forecast tender, to the commission's office in the district wherein the oil is produced,

together with an assignment of the oil to President Roosevelt or any other agency which he designates. This assignment will serve as support for the SW 2 form, and will thus assure oil going directly to the cause of aiding forces which are fighting Nazi dictatorship, the commission said.

"It is the sincere hope of the railroad commission that every oil operator in Texas will cooperate in this plan," Commissioners Sadler and Olin Culberson stated. "One of the greatest needs of Britain has been for oil to produce fuel for airplanes and motorized units. Texas wants to do its share because we know that so long as we furnish supplies for England we are doing our utmost to strike down and crush the greatest menace the modern world has ever known—that of Nazi dictatorship and greed.

"There is nothing compulsory about the plan, and any operator who assigns his oil to President Roosevelt or any agency designated by him and files that assignment with the commission's district office may then give outright the production from his wells for the day of August 10 to the 'Texas-Oil-for-Britain' program. The need for this oil cannot be emphasized too strongly, and the commission is going to cooperate in every way possible in behalf of Britain and this nation's defense program."

### *Louisiana August Allowable Increased 9406 Barrels*

The Louisiana Department of Minerals last week set the state's August oil allowable at 325,081 barrels, an increase of 9,406 barrels over the allowable for the last 15 days of July. South Louisiana was given an August allowable of 255,649 barrels, an increase of 8492 barrels while North Louisiana was boosted 914 barrels to 69,432 barrels.

## Control

### *Illinois Governor to File Bill; Condemned by Ickes*

Despite a reported unfavorable ruling on Illinois' "stop-gap" oil conservation bill, Governor Dwight Green will permit the legislation to become law without his approval, it was learned last week.

The measure is to be filed with the Secretary of State Monday without the chief executive's approval, and will become law immediately thereafter. The governor's scheduled action will be taken in face of a reported ruling of Attorney General George F. Barrett, who said the measure was unconstitutional.

As the governor's decision on the measure became known, Oil Coordinator Harold Ickes, in Washington branded the bill a "joke," and a bill "to encourage waste."

"The title is wrong," Ickes declared. "It should read: 'A bill to encourage waste of resources and the mineral wealth of the state of Illinois.'"

The measure, the attorney general's opinion reputedly informed the governor, is so full of constitutional flaws it would be inoperative if enacted into law.

Recently, the governor permitted to become law without his signature a companion bill appropriating $250,000 to administer the bill for the next two years. If the main bill is vetoed, the appropriation law will be inoperative.

The conservation measure failed to meet the governor's original requirements when he asked for a three-man oil commission with wide regulatory powers. The administration program was blocked by the legislature when factions in the state's petroleum industry disagreed on various features of the key measure.

The substitute bill establishes a formula for spacing wells, provides for drilling on block basis in municipalities, sets up safeguards against waste, authorizes the mining department to make provisions concerning drilling, spacing and plugging of wells, sets a fee for drilling wells, and makes other provisions.

State Director of Mines and Minerals Robert M. Medill already has laid the groundwork for enforcement of the new act.

## Pipe Lines

### *Plantation Lets Contract For Lateral Pipe Line*

Plantation Pipe Line Company has awarded contract for construction of an 85-mile lateral pipe line to Littrell Construction Company, Pascagoula, Mississippi.

The line, which will branch off the company's main line to be built between Baton Rouge, Louisiana, and Greensboro, North Carolina, will serve Birmingham and Montgomery, Alabama, and will leave the main line at Helena, Alabama.

### *Shell Expected to Build Line South Into North Texas*

Shell Pipe Line Corporation is scheduled to follow up the Shell Oil Company's success in developing important oil reserves in North Texas by entering the latter district with a pipe line extension from Southern Oklahoma. The company's New Mexico and West Texas 10-inch trunk line cuts across Baylor, Archer and Clay counties in entering Oklahoma near Ryan, but since this is a sour oil stream it is not practical to mix the sweet oil produced in North Texas. It is understood that Shell Pipe Line Corporation will lay a line southwest from Ryan to Shell Oil Company's two prolific Mississippian wells between Henrietta and Bellevue, and also to its Antelope 3-pay pool, southwestern Clay County. Substantial production is also held in the Scotland deep pool, Archer County, and the K-M-A field.

### *Stanolind Line Extensions in West Texas Is Anticipated*

Extension of Stanolind Pipe Line Company's Ranger-Oklahoma trunk line into West Texas will likely materialize in the near future, or when pipe is available, as result of recent and pending purchases of producing properties by Stanolind Oil & Gas Company in the north, central and south portions of the Permian basin.

Stanolind Oil & Gas Company has boosted its crude production in West Texas to 14,000 barrels daily, and also has 4200 barrels of daily output in Lea County, New Mexico. The company has been routing 8000 barrels daily for some years via Humble Pipe Line Company from the basin district to Ranger, where connection is made with Stanolind Pipe Line Company's 8-inch sour-crude unit to the Standard Oil Company of Indiana's Middlewestern refineries. The producing company operates a gathering system in the Hendrick field, and recently installed similar facilities in Cedar Lake and Slaughter fields.

Shell Oil Company has completed arrangements to divert its 3500 barrels daily crude runs in the Howard-Glasscock County district and 50,000 barrels of Wasson crude monthly to the Cosden Petroleum Corporation's Big Spring refinery. The Wasson crude will be moved via Basin Pipe Line Company's carrier. Shell Oil Company will be supplied with a proportionate volume of gasoline and other refined products by Cosden.

Humble Oil & Refining Company effective August 1 will be partially relieved of excess crude purchases in West Texas as result of Sinclair Prairie Oil Company consigning 1800 barrels of its Ector County daily allowable for delivery to The Texas New Mexico Pipe Line Company on consignment to Sinclair Refining Company's Houston refinery. Humble Pipe Line Company will gather the oil as heretofore, and deliver to the above carrier at Crane station.

### *Magnolia to Loop Southwest Texas-Beaumont Oil Line*

Magnolia Pipe Line Company will remove bottleneck on its Southwest Texas-Beaumont looped trunk line by laying a 40-mile unit from Sealy station to Tomball, where connection will be made with an 8-inch unit that ties into the company's Mid-Continent-Beaumont system at Conroe. Williams Bros. Corporation will install the link, which will involve an equal mileage of 6- and 8-inch welded pipe, and handle 10,000 barrels of crude daily.

### *Stanolind to Replace 15-Mile North Texas Crude Line*

Stanolind Pipe Line Company awarded contract to Rogers & Vaughn Construction Company to lay 15 miles of 8-inch crude line from Electra to Burkburnett District, North Texas, replacing an old 6-inch unit that failed to stand up although reconditioned last August. The system is pumping 7200 barrels daily from the KMA deep area to Devol, Oklahoma, thence north.

### *Natural Gasoline Production Continues Upward in May*

Natural gasoline production in May averaged 7,019,000 gallons a day, increases of 47,000 gallons over the preceding month and 804,000 gallons over May, 1940, it was reported July 16 by the United States Bureau of Mines.

Total production for the month was 217,602,000 gallons against 209,160,000 gallons in April, the bureau said. The outstanding increases occurred in the Texas Gulf, East Texas and Long Beach districts.

Stocks of natural gasoline increased during the month, a drop in stocks at refineries from 101,598,000 to 100,296,000 gallons being offset by an increase in stocks at plants and terminals from 129,570,000 to 145,656,000 gallons, the bureau stated.

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## *Reduced Refinery Runs Bring Heavy Gasoline Withdrawals*

Reduced refinery operations during the week ended July 19 resulted in heavy draft on gasoline stocks in the United States, as consumption continued at record levels.

One-fourth of the gasoline withdrawn from storage tanks was in the East Coast area, where stocks have been increasing of late despite the withdrawal of 50 tankers from the normal Gulf-Atlantic Seaboard trade. However, the slackened rate of crude runs to stills was sufficient to permit some desired additions to inventories of both light and heavy fuel oils, including those on the Atlantic Seaboard.

Crude oil runs to refinery stills during the week averaged 3,805,000 barrels daily, a decline of 285,000 barrels from the all-time peak of 4,090,000 barrels attained during the week ended July 12, but still 9.3 percent greater than a year ago. At this level, refineries were operated at 86.3 percent of their potential capacity, in contrast with 95.8 percent operation during the preceding week.

The reduced volume of crude run to stills resulted in the quantity of gasoline manufactured dropping to 12,562,000 barrels, compared with the record peak of 14,020,000 barrels during the previous week.

Gasoline stocks, as a result of the decreased quantity manufactured and the continued record demand, declined 1,641,000 barrels to 87,920,000 barrels, where they were 3.3 percent lower than a year ago. This heavy withdrawal of gasoline boosted the total gasoline stock decline during the past eight weeks to 7,045,000 barrels, and inventories are lower than at anytime during 1941 with the exception of the first week of the year.

Aviation gasoline stocks continued to increase, rising 163,000 barrels to a peak of 7,740,000 barrels.

Stocks of both light and heavy fuel oil increased somewhat, thereby constituting an improvement over the preceding week. Light fuel oil inventories rose 920,000 barrels to 38,732,000 barrels, at which level they were 4.8 percent greater than a year ago, and approaching a peak for the year. Heavy fuel oil inventories advanced slightly, but continued seriously small in comparison with prevailing extraordinarily heavy consumption. Stocks of residual fuels totaled 93,091,000 barrels, a gain of 392,000 barrels over the previous week, but still 11.7 percent less than the quantity in storage a year ago.

Stocks of crude oil, despite the reduced volume run to stills, continued to decrease, dropping to 255,567,000 barrels on July 12, at which point they were 2.1 percent less than a year ago.

Stocks of gasoline on the East Coast, which have been increasing of late despite the shortage of tanker transportation facilities and continued talk of possible necessity for rationing sales, took a reverse trend and registered a decline of 432,000 barrels. This left East Coast gasoline inventories at 21,932,000 barrels. Meanwhile, both light and heavy oil inventories along the Atlantic seaboard showed improvement by recording advances. East Coast light fuel oil stocks were up 676,000 barrels and now stand at 11,511,000 barrels, while heavy fuel oil stocks increased 513,000 barrels, and now stand at 8,775,000 barrels.

## Trends of Operations and Changes in Stocks

**Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports**

| WEEK ENDED | Crude Oil Production (Barrels Daily) | Crude Runs to Stills (Barrels Daily) | Crude Oil Stocks (Barrels) | Gasoline Stocks (Barrels) | FUEL OIL STOCKS | |
|---|---|---|---|---|---|---|
| | | | | | Gas Oil & Dist. Fuels | Residual Fuel Oil |
| **1938:** | | | | | | |
| November 12 | 3,243,250 | 3,180,000 | 273,394,000 | [6]67,551,000 | 34,175,000 | 120,491,000 |
| December 10 | 3,245,100 | 3,150,000 | [2]269,509,000 | 68,687,000 | 32,068,000 | 118,711,000 |
| **1939:** | | | | | | |
| April 22 | 3,526,700 | 3,280,000 | 277,156,000 | [2]87,769,000 | 21,085,000 | 105,035,000 |
| April 29 | 3,568,200 | 3,405,000 | 278,440,000 | 86,794,000 | [7]25,844,000 | [7]108,409,000 |
| May 6 | 3,580,900 | 3,275,000 | [3]278,607,000 | 86,216,000 | 26,167,000 | 108,597,000 |
| August 5 | [1]3,909,400 | 3,445,000 | 268,982,000 | 76,431,000 | 35,601,000 | 114,512,000 |
| August 26 | [5]1,690,800 | 3,475,000 | 246,982,000 | 73,475,000 | 37,722,000 | 116,237,000 |
| October 7 | 3,435,850 | 3,505,000 | 231,564,000 | [6]71,152,000 | 38,549,000 | 114,397,000 |
| October 21 | 3,771,550 | [2]3,650,000 | [3]229,127,000 | 72,122,000 | 39,358,000 | 115,060,000 |
| **1940:** | | | | | | |
| January 27 | 3,611,600 | 3,470,000 | 237,339,000 | 87,914,000 | 27,407,000 | 103,015,000 |
| February 24 | 3,732,100 | 3,490,000 | 240,836,000 | 96,719,000 | 25,390,000 | 103,419,000 |
| March 30 | 3,841,250 | 3,585,000 | 250,561,000 | 101,370,000 | 23,778,000 | 105,081,000 |
| April 20 | 3,858,550 | 3,535,000 | 254,881,000 | [1]102,817,000 | 24,779,000 | 103,323,000 |
| April 27 | 3,845,250 | 3,555,000 | 256,670,000 | 102,452,000 | 24,997,000 | 102,552,000 |
| May 25 | 3,835,650 | 3,580,000 | 259,330,000 | 100,297,000 | 28,356,000 | 104,015,000 |
| June 22 | 3,846,450 | [2]3,690,000 | 260,891,000 | 97,276,000 | 32,751,000 | 104,683,000 |
| June 29 | 3,639,550 | 3,625,000 | 262,059,000 | 95,142,000 | 33,590,000 | 104,486,000 |
| July 27 | 3,690,400 | 3,555,000 | 262,579,000 | 90,173,000 | 38,981,000 | 105,924,000 |
| August 31 | 3,501,350 | 3,575,000 | 265,865,000 | 85,393,000 | 44,766,000 | 108,774,000 |
| September 28 | 3,799,950 | 3,600,000 | 263,609,000 | 82,273,000 | 47,986,000 | 108,450,000 |
| October 26 | 3,640,300 | 3,565,000 | 262,746,000 | 80,891,000 | [1]48,893,000 | 108,475,000 |
| November 9 | 3,584,200 | 3,510,000 | 261,631,000 | [6]79,847,000 | 48,408,000 | 107,687,000 |
| November 30 | 3,335,050 | 3,510,000 | 262,679,000 | 80,284,000 | 46,212,000 | 106,618,000 |
| December 28 | 3,385,500 | 3,585,000 | 261,552,000 | 83,274,000 | 42,266,000 | 102,620,000 |
| **1941:** | | | | | | |
| January 25 | 3,599,100 | 3,625,000 | 260,093,000 | 88,762,000 | 39,039,000 | 100,297,000 |
| February 22 | 3,629,650 | 3,590,000 | 261,783,000 | 95,812,000 | 34,381,000 | 98,631,000 |
| March 1 | 3,632,250 | 3,585,000 | 263,176,000 | 96,917,000 | 33,725,000 | 97,510,000 |
| March 29 | 3,746,550 | 3,625,000 | 266,187,000 | [2]99,727,000 | 29,949,000 | 96,152,000 |
| April 26 | 3,726,850 | 3,675,000 | 266,149,000 | 96,647,000 | 29,543,000 | 94,732,000 |
| May 31 | 3,786,100 | 3,699,000 | 262,356,000 | 93,845,000 | 33,524,000 | 92,757,000 |
| June 7 | 3,816,700 | 3,880,000 | 260,956,000 | 92,522,000 | 34,305,000 | 93,384,000 |
| June 14 | 3,822,750 | 3,755,000 | 260,464,000 | 92,478,000 | 35,060,000 | 93,182,000 |
| June 21 | 3,857,600 | 3,845,000 | 259,142,000 | 91,916,000 | 35,736,000 | 93,281,000 |
| June 28 | 3,847,250 | 3,930,000 | 259,399,000 | 91,461,000 | 35,732,000 | 92,896,000 |
| July 5 | 3,658,200 | 3,745,000 | 258,070,000 | 90,218,000 | 36,925,000 | 92,635,000 |
| July 12 | 3,870,750 | [4]4,090,000 | 255,567,000 | 89,561,000 | 37,812,000 | 92,699,000 |
| July 19, 1941 | 3,676,050 | 3,805,000 | ..... | 87,920,000 | 38,732,000 | 93,091,000 |
| July 19, 1940 | 3,580,350 | [8]3,481,000 | [4]260,994,000 | 90,954,000 | 36,968,000 | 105,499,000 |
| Change in past year | +2.7% | +9.3% | —2.1% | —3.3% | +4.8% | —11.7% |

[1] All time peak. [2] Peak for year. [3] Lowest since April, 1922. [4] Stocks, July 13, 1940.
[5] Lowest since October, 1922, due to shut down of six Mid-Continent states. [6] Lowest for year
[7] Prior to April 29, 1939, data did not include stocks at terminals, in transit, etc., except in California
[8] July, 1940, daily average.

## *Product Prices Steady; Panhandle Crude Advanced*

Product prices remained generally steady last week, while a small increase was made in Texas Panhandle crude postings.

A drop of ¼-cent in the maximum posting for 68-octane, and a ⅛-cent increase in the minimum posting for 80-octane on the Gulf Coast were the only changes in refined gasoline prices. Natural gasoline strengthened slightly, the maximum posting at Breckenridge increasing ¼-cent.

Only other refined product price change was in Pennsylvania lubricating oil, bright stocks and neutral oils both advancing 1-cent a gallon.

Texas Panhandle crude buyers increased postings 3 cents a barrel, bringing the price of oils below 20-gravity to 73 cents, with a 2-cent increase for each degree to a top of $1.15 for 40-gravity and above. The increase was made retroactive to July 9.

## *Bureau Reports Production Up 70,700 Barrels in May*

Domestic crude production increased 70,700 barrels a day between April and May, to reach a daily average of 3,733,400 barrels in the latter month, it was reported July 25 by the United States Bureau of Mines, which pointed out, however, that the month failed by 42,200 barrels to reach the production average of May, 1940.

Total production for the month was 116,976,000 barrels, compared with 111,080,000 barrels in April and 118,283,000 barrels in May, 1941.

Record-breaking crude runs to stills of 3,853,000 barrels daily, and a material gain in crude exports far outweighed the gain in production, the bureau found, with the result that stocks declined nearly 4,500,000 barrels. On May 31, stocks totaled 262,111,000 barrels, or little more than those of the same date last year, and, if heavy crude in California is included, the total is less than a year ago.

The report disclosed that most of the important producing states increased

their output in May, with the largest increase about 50,000 barrels daily in Texas. The spurt in Illinois proved short lived, as the daily-average production declined in May. California, with an average of 623,200 barrels, reached the highest output since December, 1938; production in Kansas continued to rise to new records, and another increase in Coastal Louisiana brought the state's average to a new record of 314,500 barrels a day.

"The trends in the yields of gasoline and fuel oil followed the usual seasonal pattern in May, althought the rise in gasoline yield from 43.7 percent in April to 44.2 percent in May was less than expected, and the decline in the distillate yield of 0.2 percent was below the average," the bureau commented.

"The domestic demand for motor fuel in May reached 59,107,000 barrels or 12 percent above a year ago. This gain was much higher than anything contemplated at the beginning of the year, but about met predictions based on our present economy, which in May was not influenced by voluntary civilian curtailment. Exports of motor fuel totaled 2,214,000 barrels—more than last year because the 'shuttle' movement has originated in the meantime. Stocks of finished and unfinished gasoline declined about 3,000,000 barrels in May, 1941, and the total on May 31 of 92,968,000 barrels was nearly 8,000,000 barrels less than a year ago. Stocks on the East Coast were about a million barrels less in 1941 than in 1940.

"The domestic demand for most of

# Wholesale Prices of Refined Products in Principal Markets

| | Range Last Week (Cents a gal.) | | Changes from Week Before | |
|---|---|---|---|---|
| **REFINED GASOLINE** | | | | |
| **Oklahoma Refineries:** | | | | |
| 60 Octane and Under | 5¼ | 5⅝ | ... | ... |
| 63-66 Octane | 5⅝ | 6 | ... | ... |
| 72-74 Octane | 6 | 6⅜ | ... | ... |
| 80-82 Octane, Ethyl | 6½ | 7¼ | ... | ... |
| **Mid-Western Tank Car:** | | | | |
| 60 Octane and Under | 5⅛ | 5⅝ | ... | ... |
| 63-66 Octane | 5⅝ | 6 | ... | ... |
| 72-74 Octane | 6 | 6⅜ | ... | ... |
| 80-82 Octane, Ethyl | 7⅜ | 7⅝ | ... | ... |
| **New York Harbor:** | | | | |
| 68-70 Octane | 8 | 8¼ | ... | ... |
| 72-74 Octane | 8 | 8½ | ... | ... |
| Min. 80 Octane, '39 Research | 8½ | 9 | ... | ... |
| **Gulf Coast:** | | | | |
| 60 Octane unleaded | 5⅛ | 5⅝ | ... | ... |
| 65 Octane unleaded | 5½ | 5⅞ | ... | ... |
| 68 Octane unleaded | 6 | 6 | ... | —¼ |
| 70 Octane unleaded | 6 | 6¼ | ... | ... |
| 72-74 Octane leaded | 6 | 6¼ | ... | ... |
| Min. 80 Octane, '39 Research | 6¼ | 6½ | +⅛ | ... |
| **NATURAL GASOLINE** | | | | |
| **Grade 26-70:** | | | | |
| F.O.B. Group 3 | 3⅝ | 3⅝ | ... | ... |
| F.O.B. Breckenr'ge, Tex. | 3¼ | 3½ | ... | +¼ |
| **KEROSENE** | | | | |
| **Oklahoma Refineries:** | | | | |
| 41-43 water white | 4⅜ | 4¾ | ... | ... |
| 42-44 water white | 4½ | 4⅞ | ... | ... |
| **Mid-Western Tank Car:** | | | | |
| 41-43 water white | 4⅜ | 4¾ | ... | ... |
| 42-44 water white | 4½ | 4⅞ | ... | ... |
| **New York Harbor** | 5¼ | 5½ | ... | ... |
| **RANGE OIL** | | | | |
| At Oklahoma Refineries | 4 | 4⅜ | ... | ... |
| In Mid-Western Market Group 3, basis | 4 | 4 | ... | ... |
| **LIGHT FUEL OILS** | | | | |
| **Oklahoma Refineries:** | | | | |
| No. 1 straw | 3½ | 4¼ | ... | ... |
| No. 3 | 3⅜ | 3⅝ | ... | ... |
| **Mid-Western Tank Car:** | | | | |
| No. 1 white | 3¾ | 4⅛ | ... | ... |
| No. 3 | 3¼ | 3½ | ... | ... |
| **New York Harbor:** | | | | |
| No. 1 | 5¼ | 5½ | ... | ... |
| No. 3 | 4⅞ | 4⅞ | ... | ... |

| | Range Last Week (Per Bbl.) | | Changes from Week Before | |
|---|---|---|---|---|
| **HEAVY FUELS** | | | | |
| **Oklahoma Refineries:** | | | | |
| No. 6 | $0.80 | $0.85 | ... | ... |
| **Mid-Western Tank Car:** | | | | |
| No. 5 | .85 | .85 | ... | ... |
| No. 6 | .85 | .87½ | ... | ... |
| **New York Harbor:** | | | | |
| No. 5 | 1.65 | 1.75 | ... | ... |
| No. 6 | 1.35 | 1.45 | ... | ... |
| **BUNKER C FUEL OIL (Per barrel, ships' bunkers)** | | | | |
| Gulf Coast | $ .85 | $ .95 | ... | ... |
| New York Harbor | 1.35 | 1.45 | ... | ... |
| **DIESEL OIL (Per barrel, ships' bunkers)** | | | | |
| Gulf Coast | $1.55 | $1.55 | ... | ... |
| New York Harbor | 2.00 | 2.00 | ... | ... |
| Los Angeles Basin 27 gravity | 1.10 | 1.26 | ... | ... |
| **LUBRICATING OIL (Cents a gal.)** | | | | |
| **Oklahoma Refineries:** | | | | |
| Bright Stock, 150-160 viscosity at 210°, 10-25 pour test | 19½ | 20½ | ... | ... |
| Neutral oil pale No. 3 Color, 150 viscosity at 100°, 0-10 pour test | 11½ | 11¾ | ... | ... |
| **Western Pennsylvania:** | | | | |
| Bright Stock, 145-155 viscosity at 210°, 25 pour test | 25 | 26 | +1 | +1 |
| Neutral Oil No. 3 Color, 150 viscosity at 70°, 25 pour test | 31 | 36 | +1 | ... |

# United States Crude Oil Production

## Estimates Compiled by The OIL WEEKLY

| DISTRICT OR STATE | Bureau of Mines Estimate of Daily Demand (July) | State Allowable (Barrels Daily in July) | BARRELS DAILY FOR WEEK ENDED July 19 | July 26 |
|---|---|---|---|---|
| TEXAS— | | | | |
| Texas Panhandle | | | 84,200 | 82,800 |
| North Texas | | | 101,000 | 101,300 |
| West Central Texas | | | 30,100 | 31,200 |
| West Texas | | | 221,050 | 265,000 |
| East Central Texas | | | 81,000 | 83,800 |
| East Texas Field | | | 294,650 | 366,650 |
| South Texas | | | 180,300 | 216,200 |
| Texas Gulf Coast | | | 241,800 | 284,650 |
| Total Texas | 1,324,000 | 1,300,749§ | 1,234,100 | 1,431,600 |
| CALIFORNIA— | | | | |
| Long Beach | | | 38,600 | 38,800 |
| Midway-Sunset | | | 49,900 | 49,300 |
| Kettleman Hills | | | 39,400 | 36,000 |
| Wilmington | | | 84,200 | 85,400 |
| Others | | | 429,800 | 430,000 |
| Total California | 624,800 | 603,000* | 641,900 | 639,500 |
| OKLAHOMA— | | | | |
| Oklahoma City | | | 92,200 | 87,850 |
| Seminole Area | | | 109,100 | 107,775 |
| Others | | | 220,450 | 219,825 |
| Total Oklahoma | 498,500 | 415,000 | 421,750 | 415,450 |
| ILLINOIS— | | | | |
| Salem | | | 83,500 | 82,800 |
| Louden | | | 62,500 | 62,100 |
| Centralia | | | 10,000 | 9,500 |
| Other New Pools | | | 175,200 | 166,500 |
| Old Pools | | | 12,300 | 11,400 |
| Total Illinois | 384,800 | ..... | 343,500 | 332,300 |
| LOUISIANA— | | | | |
| North Louisiana | | | 74,400 | 74,700 |
| South Louisiana | | | 243,900 | 239,200 |
| Total Louisiana | 304,000 | 315,675‡ | 318,300 | 313,900 |
| KANSAS | 225,300 | 237,400 | 239,050 | 241,950 |
| NEW MEXICO | 108,600 | 108,600 | 107,500 | 108,000 |
| EASTERN STATES— | | | | |
| Pennsylvania Grade | 49,300 | ..... | 72,200 | 72,600 |
| Others, Eastern | 52,800 | ..... | 18,500 | 18,500 |
| Total Eastern States | 102,100 | ..... | 90,700 | 91,100 |
| MOUNTAIN STATES— | | | | |
| Wyoming | 88,400 | ..... | 83,300 | 84,200 |
| Montana | 19,900 | ..... | 19,400 | 19,500 |
| Colorado | 5,100 | ..... | 3,850 | 3,850 |
| Total Mountain States | 113,400 | ..... | 106,550 | 107,550 |
| MICHIGAN | 37,200 | 38,000† | 39,400 | 39,100 |
| INDIANA | 22,200 | ..... | 21,300 | 21,100 |
| ARKANSAS | 77,000 | 73,738 | 72,300 | 72,650 |
| MISSISSIPPI | 21,000 | ..... | 45,500 | 49,800 |
| NEBRASKA | 4,200 | ..... | 5,250 | 5,300 |
| ‡Total 8 Prorated States | 3,199,400 | 3,092,162 | 3,074,300 | 3,262,150 |
| Total United States | 3,847,100 | ..... | 3,687,100 | 3,869,300 |

* Recommendation of Conservation Committee of California Oil Producers.
† Estimate of actual production under prescribed regulations, which do not fix a definite state total allowable.
‡ Texas, California, Oklahoma, Louisiana, Kansas, New Mexico, Arkansas, Michigan.
§ Texas Railroad Commission's estimate of actual net daily production, allowing for usual under production of 3½ percent under net allowable, which at the beginning of July is calculated at 1,347,926 barrels daily. However, allowable normally increases as new wells are completed. Under July order, most Texas fields were ordered shut down July 4, 5, 6, 12, 13, 16, 19, 20, 26, 27 and 31. Panhandle was ordered shut down July 5, 12, 19, 26 and 31.
‡ Daily allowable for last half of July increased 12,278 barrels, all given to South Louisiana fields, making average daily allowable for week 315,675 barrels.

the other products continued strong in May, with lubricating oil registering another large gain, but with kerosene showing a decrease."

Bureau of Labor indices placed the price index for petroleum products in May at 55.3, compared with 51.9 in April and 50.7 in May of last year. The crude-oil capacity represented in the report was 4,363,000 barrels, giving an operating ratio of 88 percent, against 85 percent in April and 83 percent in May, 1940.

### *Treasury Reports Collections Up Under Higher Tax*

Increases in Federal taxes on gasoline and lubricating oils applied July 1, 1940, brought the Treasury an increased revenue of some $123,000,000 during the fiscal year which ended June 30, last, it was disclosed by the Internal Revenue Bureau, July 22.

Gasoline-tax collections for the year were $343,021,269, an increase of $116,834,600 over the $226,186,669 of the preceding year, while lubricating oil taxes returned $38,220,844, an increase of $6,988,255 over $31,232,589. Revenue from pipe-line transportation was $12,480,586, an increase of $969,939 over the $11,510,647 reported for the fiscal year 1940.

Collections from gasoline and lubricating oil declined from May to June, the bureau reported, the former dropping from $35,403,683 to $29,582,455, and the latter from $4,163,717 to $4,010,109. Both, however, were ahead of the June, 1940, collections, when gasoline returned $21,085,903 and oil $2,924,594. Receipts from pipe-line transportation in June were $1,261,780 against $1,043,232 in May and $1,041,309 in June of last year.

For the first half of the calendar year, gasoline taxes paid $169,127,079 against $107,759,571 in the first six months of 1940, lubricating oil returned $18,930,619 against $15,129,826 and pipe-line transportation revenue was $6,431,403 against $5,968,050, bureau records showed.

### *Canada Further Tightens Civilian Gasoline Use*

Canada's struggle against oil shortages was sharply accentuated last week when the government banned sale, delivery and distribution of gasoline and lubricants for automobiles between 7 pm and 7 am on week days, and on all day Sundays.

Accompanying the move were steps to raise the price of gasoline and other white products 1 cent a gallon, prohibit use of credit cards for purchase of gasoline and oil, and to prohibit sale of these products by dealers other than those licensed to sell at retail. Truck, bus and taxi companies and others using supplies from private pumps are not affected by the new regulations.

The orders follow other recent moves to tighten Canadian oil consumption. Pumps and equipment for storing and dispensing motor fuels have been denied to distributors and dealers, although replacements may be made. Enlargement of existing sales outlets in Canada have been discouraged by regulations providing that if landlords renting property to motor fuel distributors develop vacancies, the vacant property may not be rented again by other distributors.

## World-Wide Developments

### *Shell Moves Equipment to Colombia; Other Activity*

Shell Petroleum Company of Colombia is reported to have unloaded over 700 tons of equipment at the Magdalena River port of El Banco. The material is in transit between El Banco and a concession of 47,784 hectares recently acquired by transfer in the upper river valley. A 50-mile road was built from El Banco to the property, where two tests are planned. Shell's Casabe 1 on the Yondo concession is below 6710 feet, with 6563 feet of 7-inch casing. Preparations were made to swab the open zone.

Colombian Petroleum Company's Socuavo 1 and South Sardinata 1, both on the Barco Concession, were drilling below 8991 and 4078 feet, respectively.

Colombian sources report Tropical Oil Company's Cimitarra 1, wildcat on the Magdalena river near Barranca Bermeja, reached 5881 feet this month without success, has been plugged and may be suspended.

Magdalena River Valley Petroleum Company's Cimitarra 1, wildcat, was below 1494 feet. Shows of heavy oil were encountered higher in the hole.

### *Report Destruction of Unirea Refinery at Ploesti, Rumania*

Destruction by Russian bombers of the large Unirea refinery at Ploesti, Rumania, was reported last week in press dispatches from Turkey, the information coming from neutral diplomatic sources in Bucharest. The plant, formerly supplying high-grade lubricants for Germany, was declared destroyed on July 13.

Previously, heavy Russian bombing of the Rumanian oil port of Constanza was reported on several occasions.

An interesting reaction to these attacks, which quickly followed outbreak of the Russo-German war, has occurred in several British oil journals, which have raised the question of why the British air forces have done so little damage to the Rumanian oil industry. The evident explanation lies in the distance of Rumania from the British Isles. Bombings could have been undertaken from Crete during that island's occupancy by the British, but subsequent disclosures show British planes in Crete were too few even for Crete's defense.

### *Nazi Attempts to Control Bolivian Oil Thwarted*

Nazi efforts to control Bolivia's oil policies and prejudice that country against American oil companies were thwarted last week when the Bolivian government suddenly ousted the German minister at La Paz, and charged that Nazi elements were conspiring to overthrow the government. Arrests of several army officers, exposure of secret Nazi radio stations and discoveries of caches of arms were other developments.

Since the pro-Nazi Busch regime's days, anti-American propaganda has been fostered. The controversy between Standard Oil Company of Bolivia and the government was seized upon as a basis for charges of American imperialism. At the same time, efforts were made to bring German oil-field machinery and pipe into Bolivia in return for Bolivian oil and tin. The war ended a project to build a German pipe line from the Bolivian fields to Argentina.

### *Venezuelan Production of Lago and Standard Rises*

Increased production in western and eastern fields of Venezuela by Standard Oil Company of Venezuela and Lago Petroleum Corporation has played a large part in gains made by the Venezuelan oil industry this year.

Standard of Venezuela's daily output in May totaled 99,216 barrels as against 85,876 barrels in January, a gain of 16 percent. Most of Standard's production is centered in the eastern fields, the eastern output being 87 percent of Standard's production in May.

In May, Lago's total daily average production was 220,763 barrels, an increase of 52 percent over the January figure. This gain came entirely from production in the Lake region, which accounts for about 97 percent of Lago's total daily production.

Exports of the two companies have also sharply risen this year, totaling in May 9,018,592 barrels, an increase of 33 percent over January exports of 6,780,480 barrels.

### *California Raises August Quota 7000 Barrels Over July*

Further relaxation in restrictions on oil production was approved by the Conservation Committee of California Oil Producers for August when the state's quota was boosted 7000 barrels, to 610,000 barrels daily. The July quota was increased 28,000 barrels over June.

The higher quota will permit lifting restrictions on the state's 1105 maximum wells from 142 barrels daily for any one well to a new top figure of 145 barrels daily. Remainder of the increase will be assigned to newly completed, recompleted or resumed wells.

The committee pointed out that the United States Bureau of Mines estimate of August demand for California oil is 641,000 barrels daily, providing justification for the further increase in quota.

In allocating July's production quota, the increase in allotments was given to intermediate well classifications, and it was decided then to grant a major share of any increase in the August figure to the state's larger wells.

### *Venezuelan Drilling*

In eastern Venezuela, Socony-Vacuum Oil Company was drilling below 11,190 feet in Anaco 1, Roble area. The company's Guario 3, San Joaquin area, was below 9365 feet; Guario 4, at 6598 feet, had stuck drill pipe, and preparations were made to cement Hamaca 1, bottomed at 3402 feet.

The Texas Company of Venezuela had derrick ready for Rincon Largo 2, eastern Venezuela, but was awaiting final results obtained in Largo 1, being extensively tested at various levels.

# U. S. FIELD OPERATIONS

## Illinois Basin

### *Pools Loom for White, Marion and Shelby Counties*

New fields in White, Marion and Shelby Counties indicated: wildcats in Bond, Hamilton and Wayne recover oil shows; drilling booms in Jefferson and Wayne Counties.

**Promised Pools:** Wall-Mitchell's Kershaw 1, SW SW NE 22-3s-10e, White County, cleaning after shot, swabbed 7 bbls hourly before shot, Cypress 2878-2900 ft, 5 miles northwest Calvin field production; Noah & Morrison hold 3000 acres in area.

Swan-King Oil Co's Kotva Heirs 1, C S½ SW NW 36-4n-2e, Marion County, 6 miles east East Patoka field, swabbed natural 114 bbls 72 hours, Rosiclare 2085-2101 ft; shut in for pipe line; Kotva 2, 330 ft west No 1 waiting on cement, casing on Rosiclare 2088 ft, bottomed 2104 ft. Both Nos 1 and 2 also found Benoist saturation, not tested.

Oil Carriers, Inc's Barkhurst 1, SW SW NE 7-10n-3e, Shelby County, mile east small Lakewood field, swabbed 122 bbls 30 hours, Bethel, bottomed 1701 ft, 3½-qt shot; bailer lost, now fishing.

**Bond County:** Schwarz's Studebaker 1, SE SE SW 21-6n-2w, shut down on orders 3296 ft, streaked Trenton saturation 3144-77 feet; may make drillstem test; no Trenton production in county.

**Hamilton County:** Shell Oil Co's Ventrees 1, SW SW SE 13-6s-5e, 6 miles southwest McLeansboro, total depth 3198 ft, to take drill-stem 3188-98 ft, Aux Vases, drill-stem 3117-53 ft, one hour, 185 ft mud heavily cut oil and gas; entered drill pipe rate 2 bbls hour. Kingwood Oil Co's Johnson 1, NE SE NE 14-6s-5e, drilling 3074 ft.

**Wayne County:** New Penn Development Co cleaning out Wagner 2, C S½ NW SE 30-2s-9e, to test show McClosky oil; ½-mile south unsuccessful Wagner 1.

Texas Co's Draper 1, N½ NW SW 8-3s-6e, testing after squeeze job; before squeeze swabbed bbl oil, 2 gals water hourly, McClosky, total depth 3469 ft; Glen Dean 2670 ft, Ste. Genevieve 3275 ft.

Three offsets to Wiser Oil Co's Hillard 1, discovery, were waiting on cement: Texas Co's M. Watson 1, C N½ NE SW 34-1n-6e; Shell's Turner Consolidated 1, C S½ SW SW 27-1n-6e; Wiser's Hillard 2, C N½ SE SW 27-1n-6e; all recovered McClosky saturation. Discovery initialed about 2500 bbls day natural; 10 other tests drilling in area.

**Jefferson County:** Kingwood Oil Co's discovery near Woodlawn, Jefferson County, First National Bank of Woodlawn 1, SE SE SW 35-2s-1e, 943 bbls in 24 hours, Benoist sand 1963-81 ft, 20-qt shot; largest producer drilled in county. Field's second producer, Gulf Refining Co's Eubanks 1, NE SE SW 35-2s-1e, swabbed 325 bbls 38.5-gr oil in 24 hours natural, preparing to shoot; 15 other operations in area active to give county biggest drilling boom in its history.

**Saline County:** Thompson Drilling Co's Reich 1, NE SW NE 8-8s-7e, swabbed 65 bbls oil, 20 percent water 12 hours, McClosky about 2990 ft, after 1000 gals acid.

**Franklin County:** Oil Carriers, Inc's Wayman 1, SW NW SW 1-6s-2e, 3 miles north Benton field, preparing test McClosky about 2900 ft; show also reported Paint Creek 2580-98 ft.

## Kansas

### *Arbuckle Promises Pools in Russell and Stafford*

Arbuckle lime strikes indicated in Russell and Stafford Counties, Feltes pool, Barton County, extended east; McLaughline pool, Jefferson and Leavenworth Counties, extended north.

**Russell County:** Central Petroleum Co. et al's Gustason 1, C S½ SE NW 14-15-12w, 3 miles southeast Greenvale pool, Anhydrite 690 ft, Kansas City-Lansing 2932 ft, porous section lime with live oil 3026-42 ft, Arbuckle 3245 ft, drilled in 2 ft for full saturation, 5-in casing 3245 ft, to drill plugs. Stanolind Oil & Gas Co. supporting with dry hole money, has west offset.

Ruso Drilling Co. et al's Phillips Estate 1, SE NE NE 6-14-13w, 3 miles east Russell pool, Anhydrite 820 ft, Kansas City 3029 ft, rotating below 3250 ft. Central Petroleum Co.'s Harbaugh 1, NWc 21-14-12w, 2 miles north Greenvale pool, drilling below 2800 ft cable tools, operator's Steinlie 1, C N½ NW NE 29-15-12w, 2 miles west Dubuque pool, Anhydrite 794 ft, Neva 2065 ft, Kansas City 3046 ft, no shows, drilling 3300 ft.

**Stafford County:** E. W. Hamilton, Central Petroleum Co. et al's Ward 1, NEc SW 15-23-13w, 6 miles north St. John pool, Anhydrite 765 ft, Ft. Riley 1940 ft, Lansing-Kansas City 3435 ft, Viola 3730 ft, Simpson 3766 ft, Arbuckle 3817 ft, slight saturation 3821 ft, bleeding core full saturation 3821-24 ft, very porous., drilled plugs 3824 ft, bailed ¾ bbls oil hour, to dump 100 gallons acid to clean hole before full treatment.

Stanolind's Black 1, C N½ NE SW 25-24-12w, 4 miles west south end Zenith pool, abnd 4140 ft in Arbuckle lime.

**Barton County:** R. E. Day et al's Schauf 1, SE SW 11-16-12w, ½-mile east Krier pool, potential 961 bbls daily, Gorham sand 3365 ft. Pool productive Shawnee lime, Lansing-Kansas City, Gorham or basal sand, and Arbuckle lime.

**McLaughlin Area:** Archie et al's Schreder 1, C SE SW 28-9-20e, mile north production, 40 qts 1442-68 ft sand, filled 1100 ft oil 12 hours, 21.3-gr, testing; Mississippi lime 1468-72 ft filled 140 ft fluid, 7-in 1442 ft, plugged back 1468 ft.

Ray Anderson et al's Woodhead 1, C NE SW 32-9-20e, sand 1486-98 ft, total depth 1505 ft, 13,055,000 gas. McLaughlin & Young's McLeod 2, NWc SW 4-10-20e, 20 bbls daily pump, Mississippi 1423-1596½ ft.

Black Gold Operating Co.'s Fervurly 1, C SW SE 1-9-20e, rotating 1250 ft.

**Kearny County:** Stanolind's Patterson 1, C E½ SE SE 23-22-38w, Cherokee discovery, deepening 5700 ft to Arbuckle lime.

## Oklahoma

### *New Pools Opened in Creek and Osage Counties*

Two-zone pool promised mile southeast of East Cromwell, Okfuskee County; new pools opened in Creek and Osage counties; Pottawatomie wildcat west Tecumseh Lake pool penetrated saturated Wilcox sand; fourth horizon discovered West Arno pool, Creek County.

**Okfuskee County:** Shell Oil Co.'s Palmer 1, SW NW SW 6-10n-9e, mile southeast East Cromwell pool, Booch 2954 ft, show oil 2954-85 ft, base Booch 3000 ft, water sand 2984-3000 ft, Cromwell 3355 ft, drill-stem test 3359-3426 ft, 27 minutes, 200,000 ft gas 9 minutes, 900 ft mud, no oil; Hunton 3882 ft, packer 3905 ft, 7-minute drill-stem test, 360 ft oil and gas-cut mud, total depth 4214 ft in Second Wilcox, show oil, running electro log before setting casing.

W. T. Shelton Drilling Co.'s Armstrong 1, SEc NW 3-11n-10e, 3 miles northeast Okemah, cleaned out to 3394 ft in Cromwell, 2½-in tubing, packer set 3019 ft, 7-in casing 3308 ft, 25 bbls net oil, 6 hours, testing.

Vierson Oil & Gas Co. et al's Harper 1, NWc NE 16-13n-7e, 7½ miles north Paden, 1000 gals acid Hunton lime 4039-65 ft, small show oil, lots of water, to reacidize, total depth 4210½ ft; First Wilcox topped 4199 ft, electro log showed good in Hunton and Dutcher, 5½-in 4100 ft. Wilcox Oil & Gas Co.'s Moseley-Nevins 1, SE NW 4-13n-7e, 2 miles north Harper 1, rotating 3200 ft.

**Creek County:** Zephyr Drilling Co.'s Sinclair 1, SEc NW 34-17n-8e, between Olean and North Bristow pools, swabbed 75 bbls 40-gr oil 24 hours, installing pump; Prue sand 2325-90 ft, ripped 2374-77, 2370-73, 2360-70, 2343-50 and 2334-37 ft, shot 80 qts 2330-87 ft; Redfork 2693-2732 ft, Bartlesville 2843 ft, Mississippi 3310 ft, Woodford 3562 ft, Misener 3593 ft, Viola 3598 ft, Wilcox 3658 ft, total depth 3692 ft; showed water in Wilcox, Bartlesville and Red Fork.

Wilcox Oil & Gas Co. and Sunray Oil Co.'s Sooktey 1-A, SE SW SW 26-14n-7e, West Arno pool, shot Bartlesville sand 3163-80 ft, 50 qts, flowed 54 bbls 24 hours, 39-gr.

**Osage County:** Ohio Osage Oil Co.'s Osage 1, C E½ E½ NW 32-22n-9e, 2 miles northeast Osage City pool, Oswego lime 1880 ft, 2.0 million ft gas 1880-90 ft, lime 2074-78 and 2123-35 ft, Bartlesville 2238-50 ft, 4.25 million ft gas. Norbla Drilling Co. et al's Osage 1, SWc NE 9-26n-5e, 3 miles southwest Burbank pool, drilling 2750 ft, contract depth 3000 ft, or Bartlesville sand.

**Pottawatomie County:** M. T. Meyers et al's Johnson 1, NE SE NE 34-10n-3e, 2 miles west Tecumseh Lake pool, logged Belle City 2725 ft, Hogshooter 3175 ft, Checkerboard 3500 ft, Cherty lime 4708 ft, Simpson Dolomite 5243 ft, Wilcox 5282 ft, core 5280-90 ft, first 2 ft dolomite, 8 ft soft medium-grained

sand with good saturation; to cement 7-in casing and test Wilcox.

Manahan Oil Co. et al's Brown 1, SEc 21-10n-3e, 2½ miles northwest production, First Wilcox 5483 ft, Second Wilcox 5580 ft, abandoned 5597 ft. Stanolind-Amerada's Rowan 1, NE NW SW 20-9n-4e, 2 miles west East Tecumseh pool, Belle City 2365 ft, Hogshooter 2805 ft, Wewoka series 3380 ft, Calvin 3940 ft, Earlsboro 4366 ft, Mayes 4500 ft, Woodford 4575 ft, Misener 4703 ft, Hunton 4706 ft, small show oil, Viola 4872 ft, Dense 4930 ft, Dolomite 4964 ft.

## West Texas

### *Development Accelerated in Important Proven Areas*

Ordovician wildcat southeastern Reagan County will set 9000-ft string pipe to test. Abel and Apco deep areas, Pecos County, were extended. Development proved acreage in all sectors of district being accelerated, particularly Slaughter field and Ector County fields. Permian wildcats to east of north portion of district nearing decisive levels without shows. Crinoidal lime accounts for record flow in extending Todd structure northward. Another big well on east edge of Jordan field.

**Reagan County:** Amerada Petroleum Corp.'s University 1-AR, C SE NE Section 3, Block 48, 8 miles southeast Big Lake townsite, running 5½-inch pipe to test broken oil saturation and stain, total depth 9080 ft. Top of Ordovician series not made public, but lime and dolomite section soft and core recovery poor. Carrying open hole below 7-in at 2225 ft. Logged Yates 1410 ft and first lime 2160 ft. Company holds 24 sections, with few gaps.

**Pecos Ordovician:** A. W. Thompson's Gregg-Texaco 1, ¼-mile southwest outpost Abell pool, flowed 350 barrels natural broken Ellenberger saturation 4553-4625 ft, elevation 2441 ft. Treating with 5000 gallons acid. In Abell field, Sinclair Prairie Oil Co.'s Heierman 1 broadened south end producing area to west with natural flow 495 bbls oil 4¾-hour gauge ½-in choke, perforated 40 shots 5444-54 ft, td 5500 ft. Top Simpson 4850 ft and Tulip Creek 5105 ft. Magnolia Petroleum Co.'s McKee 1, east outpost, installing pumping unit, plugged back from 5940 to 5933 ft. Yielded 68 bbls oil and 73 bbls water swabbing and flowing 10-hour test. McKee 1-S, twin location, completed in Rustler 380-421 ft, 7-in 380 ft, using as water disposal well. New tests being authorized by above operators and Stanolind in expectation of early entry of pipe line. The Texas-New Mexico Pipe Line Company reported holding back for lack of pipe, while Magnolia Pipe Line Company is now likely entrant.

**Pecos County:** J. E. Redmond, J. L. Greene and Paul Davis' Iowa Realty 1, C E¼ of W¼ H&GN Section 29, Block 10, 2½ miles north of Ellenberger oil production in Heiner pool, awaiting orders after dry drill-stem test 5805-6010 ft in Simpson, topped 5370 ft, elevation 2525 ft. This wildcat abnormally low, but may be carried to Ellenberger. Simpson absent in Heiner pool discovery, which entered Ellenberger 5128 ft, elevation 2549 ft, with small oil flow broken saturation 5382-5509 ft.

**Wildcats:** L. C. Harrison et al's Nairn 1, 3½ miles northeast Lubbock and south of the buried granite ridge, drilling dry lime 4500 ft, no shows. Topped Yates 1930 ft; first lime 2690 ft and solid lime 3100 ft. Uscan Drilling Co. and Ross Sport's Rice 1, Lynn County, drilling lime 4200 ft. Helmerich & Payne et al's Dick Slaughter 1, Cochran County, 10 miles northwest Dean pool, topped lime 3965 ft, fishing 4705 ft, changed to tools after landing 5½-in 4377 ft. Magnolia Petroleum Co.'s Walton-State 20, between Keystone and Kermit fields, resumed coring 7525 ft on strength oil stain below 7510 ft. In Terry County, Anderson-Prichard Oil Corp. and Osage Drilling Co.'s Christman 1 drilling hard lime 5230 ft. Topped Yates frosted grains 3170 ft and brown lime 4210 ft, elevation 3247 ft.

**Ector County:** Development has gained sharply in recent weeks and will be further expanded as result of Stanolind having acquired Barnsdall Oil Co. holdings in Foster-North Cowden district with considerable undrilled sites. Former already in midst of active drilling program, sharing top honors with Sinclair Prairie, which has 16 active tests and a big program on tap. Controlled oil held by Sinclair Prairie in Ector County will be available to Sinclair Refining Co.'s Houston plant as result of arrangements just completed whereby Humble Pipe Line Co. will make deliveries to The Texas-New Mexico Pipe Line Co. near Crane station.

**Crockett County:** Amerada et al's Tod 1-A, 4000-ft north extension for the Todd deep area, established new producing records for Crinoidal in flowing 761 bbls 41.2-gr oil natural on 3-hour test, perforated 5565-5722 ft, gas/oil ratio 700/1. Highest on structure, and ninth oil well for area. Topped Crinoidal 5562 ft and Simpson 5970 ft, elevation 2520 ft; 5½-in on top Ellenberger 6144-6400 ft, latter yielded nominal show oil. Amerada et al's Todd 1-C, C SW SW GC&SF Section 15, Block 10, new Ordovician project 3½ miles west production.

### *Stanolind Continues Purchase Of West Texas Properties*

Stanolind Oil & Gas Company has contracted to buy Barnsdall Oil Company's properties in Andrews, Ector, Ward and Winkler counties, West Texas, for $4,775,000 cash and notes. This deal involves 102 producers, including 2 gassers, with an allowable of 2300 barrels daily, and leases aggregating 3125 acres. Purchaser is scheduled to complete title examination by August 1. Barnsdall Oil Company retains its natural gasoline plant in the Foster field, and also its wildcat acreage.

Stanolind is negotiating for several other substantial producing properties in the district, including those of Osage Drilling Company and Sid W. Richardson. The sum of $1,086,000 cash and notes was paid in June by Stanolind for the Slaughter field properties of Awoeb Oil Company and Bond Oil Corporation. The acquisition of proved and semi-proved acreage in the Abell field by the company involves an aggregate of $1,000,000 in cash and oil bonuses.

## North Texas

### *Northeast Montague Wildcat Has Promising Show in Strawn*

A northeast Montague County wildcat logged a promising show in Strawn, and west part of County was assigned two deep prospects. Third Strawn producer was completed in Bindel pool. Confirmation test is underway in the new Ellenberger sector of South Electra field.

**Montague County:** Shell's Thomas 1, projected 5000-ft test, 4½ miles southeast Spanish Fort, yielded 120 ft of oil-cut mud and 60 ft mud on drill-stem test at 3020-50 ft, bottom hole pressure 1350 lbs. Will drill to depth contract then plug back. Continental's Winder 1, 1½ miles east of Stoneburg, and W. B. Omohundro and Benson Bros.' Riley-Tatum 1, C Ellis Survey, 2½ miles southwest Fruitland, will be carried to Ordovician unless productive at shallower depth.

**South Electra:** Competitive drilling is in store for deep oil zone recently uncovered by Magnolia's Burnett-Gladiolus 79, which flowed 107 bbls 42-gr oil in 3 hours, acidized Ellenberger 3627-35 ft with 6000 gallons. Kemrow Production Co.'s Burnett 57-B started as east offset, giving second offset to Gulf, which may sublease deep rights. Venmex Oil Co. authorized 5 Ellenberger tests for its River Bed lease in KMA deep area, other lease owners within proved Ellenberger sector stepping up activity.

**Cooke County:** Texas Co's Bindel 2, third Strawn producer for Bindel pool, pumped 259 bbls pipe line oil initial, sandy-lime 1875-82 ft. C. J. Bohner et al's Wickliff 1, Israel Gable survey, A-420, west edge county, logged 69 ft sand between 3110-79 ft, with 5 ft of section showing saturation, drilling 3315 ft. Dickson Oil Co and R. B. George's George 1, projected 6000-ft test Sivells Bend area, drilling shale 4090 ft. Sinclair Prairie Oil Co has 8 operations in Walnut Bend field, including 4 tests at completion stage.

**Clay County:** L. T. Burns et al's Wynn 1, wildcat 6½ miles south Blue Grove and deepened from 5202 ft, topped Bend 5375 ft and drilling sandy-lime 5675 ft. Shell's Scaling 1, 4¼ miles south Burns-Browning pool and originally abandoned 5436 ft in Bend, topped 5391 ft, drilling 6090 ft in Barnett shale, topped 5920 ft. Continental et al's O. C. Ross 3, first test in Ross-Jolly pool, to drill to Ellenberger, drilling plugs from 6-in 5602 ft, total depth 5846 ft. Nominal saturation in Ellenberger, topped 5766 ft. Superior's Seigler-Shell 1, 12½ miles south by west Shell's two prolific Mississippian wells, drilling 2650 ft.

**Fargo:** Texas Co's Anderson 1, west edge test, swabbed 45 bbls oil 15 hours, used 4000 gals acid 4516-4630 ft, total depth 4652 ft in Strawn, topped 4468 ft. Will reacidize with 5000 gals. Chas. H. Kadane and J. N. Fidel made location for 3 additional tests in Harrold pool, which has been given pipe line connection by Texas Pipe Line Co. Partnership's Orr 1, south offset to discovery, pumped 176 bbls oil and 138 bbls water initial, perforations 3306-15 ft, total depth 4412 ft, making second well this lower pay.

## East Texas

### *Second Well at New Salem Assures Commercial Producer*

Second producer was assured New Salem pool, southwestern Rusk County. A Lower Trinity wildcat in southwestern Henderson County logged additional promise of gas-distillate in deepening. Chapel Hill expanded east of discovery with gas-distillate producer. Hawkins has 100 wells.

**Rusk County:** M. D. Bryant et al's Evans 1, south offset to the discovery at New Salem, cleaned itself in pits to indicate commercial oil and gas flow, perforated 4049-52 ft, total depth 4100 ft. Top Woodbine series 4046 ft and oil sand 4056-65 ft, elevation 405 ft, being 10 feet low.

**Henderson County:** British-American Oil Producing Co.'s Young 1, 7½ miles southwest of Athens, made three indecisive drill-stem tests at 7732-82 ft, although mud and drilling water was recovered in 1½ minutes before seat slipped. Additional distillate stain and gas shows were reported in deepening to 7789 ft. Massive anhydrite was logged from samples at 7445-7606 ft, elevation 393 ft.

**Hawkins:** Late completions gave this Woodbine field its 100th producer, including two gassers that were originally completed in Woodbine then plugged back to produce dry gas from sub-Clarksville. Center of drilling activity has shifted to the east extension sector recently proved by the completion of Roger Lacy et al's Maberry 1, on a 3¼-acre lease, J. G. Heard Survey, flowing 92 bbls oil 6 hours, ¼-in choke, perforated three zones, with aggregate 233 ft of sand. Top Woodbine series 4225 ft and first oil sand 4462 ft, elevation 381 ft. Humble's Crisman 1, southwest offset to the discovery pumper, also made a pumper testing 28 bbls initial after five groups perforations between 2728 and 4887 ft, total depth 4923 ft, elevation 418 ft.

**Smith County:** Chapel Hill Gathering System's Johnson-Pure 1, ¾-mile east of Chapel Hill field discovery, flowed 215 bbls distillate and 2,720,000 ft gas initial 5/16-in tubing choke after acidizing through perforations 8046-8136 ft, in Pettit topped 8058 ft, elevation 494 ft.

## Southwest Texas

### *Scattered Tests Provide Four New Oil Areas*

Two new sands were provided East Premont field, Jim Wells County, in Lower Gulf Coast sector; Dale lime provides Bastrop County field; three new areas opened Mirando district, in Duval and McMullen Counties.

**Lower Gulf Coast:** Magnolia Petroleum Co's Seeligson 17, ¼-mile northwest outpost East Premont, Jim Wells County, perforated 5555-57 feet, drill-stem test ¼-in chokes, 90 lbs, started flowing 40 minutes, pressure dropped to 50 lbs, continued to flow 80 minutes, then shut in; averaged 12 bbls hour 40-gr crude, no water, bottom-hole pressure flowing 1500 lbs, closed 2020 lbs; cleaning into pits, provides new sand.

Sun Oil Co's Canales 1, mile west south end East Premont, Jim Wells County, extended field, opened new sand; potential test flowed 173.43 bbls 39.9-gr day ¼-in choke, 220 lbs tubing, 1175 lbs casing pressures, no water, gas/oil ratio 300/1; perforations 5202-7 ft.

Howeth & Wilcox's Adams 1, 1½ miles west Alfred field, bottomed 5185 ft, set casing, perforated sand 4312-20 ft; if unsuccessful will perforate sand 4196-4205 ft, may open new field.

S. E. W. Oil Corp's J. Stelzig 1, Sec 196, Nueces County, deepened from 7015 to 7510 ft, 4-in to bottom, perforating; attempting to expand Stratton field mile north, and open new sand.

Houston Oil Co. of Texas' Hornstein 1-A, Cologne field, Victoria County, cored gas sand 4377-82 ft, oil and gas sand 4782-4405 ft, new pay for area, drill-stem test 4388-94 ft recovered 3500 ft oil 40 lbs pressure 20 minutes; deepened to regular pay 4800-20 ft and completing.

Magnolia Petroleum Co's West 176-A, West Ranch, Jackson County, cored sand 6158-65 ft and on potential test flowed 422.28 bbls day 39.9 gr oil, no water, 3/16-in choke, 1075 lbs tubing, 1170 lbs casing pressures; gas/oil 626/1; extends 6100-ft sand 1½ miles northeast.

McSpadden Co's Clark 2, Coloma Creek, Calhoun County, drilled 8514 ft, plugged back, series of tests showing gas, distillate and water, tests being continued.

**Balcones Fault Zone:** W. J. Furlong and C. L. Thompson's O. B. Lentz 1, potential test, rate 596.86 bbls, 36.8-gr. oil day, ¼-in choke, 110 lbs tubing, 250 lbs casing pressures; plugged back from 2453 ft, acidized Dale lime 2226-44 ft; opens Lentz field 3000 ft southwest Carroll production, Bastrop County.

Wiegand Brothers' Carroll 2, 1½ miles southwest Lentz 1, cored Dale Lime 2245-55 ft, bottomed 2480 ft in Austin chalk, pumped 15-18 bbls day after 2000-gal acid.

**Mirando District:** Hiawatha Oil & Gas Co's George Parr 32, 1½ miles east North Sweden field, Duval County, perforated oil sand 4917-40 ft, flowed estimated 150 bbls day 42-gr oil ¼-in choke, not fully gauged, opens East Benavides field.

Argo Oil Corp's C. Gonzales 1, 10 miles northwest Premont, Duval County, abandoned earlier in year when drill stem stuck 6296 ft, 12 ft off bottom, perforations 6270-84 ft, hole acidized 1500 gals, flowed rate 4,000,000 ft wet gas, choked through 1¼-in drill pipe; new field in Hockleyensis zone, topped 6146 ft.

Argo Oil Corp.'s H. C. Edrington 1-I, Sec 61, southern McMullen County, potential test flowed 157 bbls 22.6-gr. oil 1¼-in choke, 740 lbs casing pressure; new field 2 miles southwest Campana area in Pettus sand 3012-23 ft.

W. C. McBride, Inc's Garza 1, Sec 675, 8 miles north Bruni, Webb County, swabbed very small amount oil and water, stood overnight, 40 gals oil, 100 gals water, waiting orders.

**Rio Grande Valley:** W. R. Davis, Inc's Arizona-Texas 1, 1½ miles east McAllen field, drilled 8575 ft, 7-in casing, testing higher; effort to open new sands and extend field.

**Wilcox Trend:** E. M. Jones' West 3-B, 4 miles southwest George West, Live Oak County, after series of squeeze jobs, perforated Wilcox sand 9524-9614 ft, attempting to bring about flow; would open new field.

Henderson Coquat's Reagan 1, deep test Oakville field, Live Oak County, abandoned 8005 ft in Wilcox, no showings.

Shell Oil Co's McManus 1, Brushy Creek prospect, Lavaca County, perforated several levels in Wilcox above 9000 ft; thus far no commercial results; drilled about 9500 ft, plugged back; no details released.

## Texas Gulf Coast

### *Two Deep Holes Being Tested; Flank Drilling Holds Interest*

Two of several deep holes were testing, as interest in deep projects on flanks of producing structures in the Texas Gulf Coast continued to command attention.

**Testing:** Republic Production Co. and Houston Oil Co.'s Hurd 52, Joe's Lake field, Tyler County, showed unfavorable 10,579-625 ft; to test five zones up to regular 7700-ft zone.

Stanolind Oil & Gas Co.'s Hulen 4, Alta Loma area, Galveston County, perforated 10,345-380 ft, swabbing.

**Deep Tests:** Gulf Oil Corp.'s Wing 48, Segno field, Polk County, drilling 11,000 ft, no pays below 10,200 ft. McCarthy's Triangle 1, north Chocolate Bayou, Brazoria County, drilling, to set pipe for test sand 9700 ft. Mackhank Petroleum Co. trying move in rig east flank test Boling field, hampered by mud, John Blaffer drilling contractor.

**Fort Bend County:** Providence Oil Co.'s Settegast 1, west Clodine field, 200 ft higher Clodine discovery on lower markers, no showings in Cockfield, Yegua or Cook Mountain, abandoned 9770 ft. Cockburn's Leveridge 1, Peach Bend prospect, drilling side-tracked hole 5900 ft, above sand causing blowout original hole.

## Louisiana Coast

### *Deep Well in Calcasieu Blows Gas and Catches Fire*

A Calcasieu Parish test was reaming rat hole with total depth at 9991 ft, after coring the last 1000 ft, while deep wildcat in same parish blew out and caught fire. A Terrebone Parish test set 7-in in 11,397-ft hole.

**Calcasieu Parish:** Pan American Production Co.'s Moss Lake 1, cored 1000 ft to 9991 ft and was reaming.

Gulf Refining Co.'s Calcasieu National Bank 1, Sec. 18-11s-5w, Hayes area, blew out while attempting to squeeze perforations at 10,527-529 ft, estimated 50 to 100 million ft gas daily, caught fire.

**Terrebone Parish:** Gulf's Picou 1, Lapyrouse prospect, set 7-in, bottomed 11,397 ft, shows reported below 10,800 ft, may be deepened.

Sinclair Prairie's Duplantis 1, Bourg area, running electrolog bottom 10,350 ft.

**Neale Field:** Atlantic Refining Co. moving in materials for a deep test Sec. 27-3s-11w, Beauregard Parish.

**Pine Prairie Field:** Gulf's Evangeline Land & Minerals Co. 2-A, discovery north offset, 471 bbls 3/16-in choke, perforated 8320-30 ft. Pan American Production Co.'s Guillory 1, below 6000 ft, E. J. Nichlos' Reed 1, spudded.

## North Louisiana

### *Travis Peak Shows Five Miles Northeast Lisbon*

Five-mile northeast extension of Travis Peak production Lisbon field, Claiborne Parish, indicated.

**Lisbon Field:** Big West Drilling Co.'s Alford 1, C W½ 11-21n-4w, showed gas/distillate 3-minute test 5147-74 ft; cores showed 25 percent porosity, 2230 millidarcies permeability, 200 lbs pressure built up before packer gave way; will drill 6000 ft, plug back and test Travis Peak. May be on new structure.

**Deep Test:** Union Producing Company rigging McDonald 1, SW 13-21n-5w, 10,000-ft test.

**De Soto Wildcat:** William DeSoto plans 3500-ft wildcat Sec. 6-12n-14w, on 3000-acre block.

**Lincoln Parish:** E. G. Fox assembling block around Sec. 13-20n-4w, for Travis Peak wildcat.

## Arkansas

### *McKamie Edge Test Rated Gas/Distillate Well*

Arkansas Oil & Gas Commission classified Carter Oil Co.'s Cornelius Unit 1, Sec. 30-17-23, McKamie northwest edge well, LaFayette County, as gas/distillate well. It completed at 9429 ft, Smackover lime, gauging 16 bbls 46.3-gr fluid per hour, perforating 9328-40 ft; checked low on top lime; gas/oil ratio 1170/1.

**Dorcheat:** Delta Drilling Co.'s Martel 1, C SW SW 10-18-22, Dorcheat field, Columbia County, completed 8907 ft, perforated 8888-93 ft, 24 shots, flowed 20 bbls hour, 16/64-in choke.

**Semi-Wildcat Abandoned:** Arkansas Fuel Oil Co.'s McGaughey 1, NE NW NW 6-15-18, seeking deeper production flank Stephens field, abandoned 5336 ft after coring soft porous lime with salty taste.

## Mississippi

### *Several Scattered Wildcat Tests to Start Soon*

Mississippi developments routine, with most drilling confined to Tinsley Dome field, Yazoo County. Several scattered new wildcat tests in prospect.

**Hinds County:** Allison Bishopric took Jeffreys et al's block around Sec. 23-7n-4w, where 3448-ft wildcat failure was drilled in 1940; new owner will drill five 3000-ft tests, or one 7500-ft test.

**Lawrence County:** Tide Water Associated Oil Co. curing titles block around Sec. 5-5n-11e, before staking location.

**Madison County:** C. L. Raines preparing to drill wildcat Sec. 16-9n-1w, School Board land.

**Yazoo County:** Edgar C. Johnston secured 30-day extension for starting test near NWc 25-10n-1w.

## Rocky Mountain Area

### *Canyon Creek Gas Strike First in Wyoming This Year*

Gas on Canyon Creek structure gave Wyoming its first important 1941 strike, while northern Montana's Cut Bank and Whitlash fields were extended.

**Canyon Creek:** West States Oil Co.'s (formerly Italo Petroleum Corp.) Humphrey Unit 1, NW SE SE 10-12n-10w, 2.0 million ft gas Wasatch sand, Tertiary age, 2720-50 ft, drilling 2997 ft for additional Wasatch sands; location center 14,540-acre block; five additional tests to drill this year.

**Cut Bank:** Pioneer Lumber Co. and Anderson's Tribal 1, NW NE NW 31-32n-5w, bottomed 3035 ft, swabbed 165 bbls Lower Cut Bank 3008-25 ft; mile south extension.

**Whitlash:** Western Natural Gas Co.'s Herbert 1, C NE SW 28-37n-4e, Liberty County, bottomed 1680 ft, 4.0 million ft gas, ½-mile southwest extension.

**Scattered Tests:** Mutual Oil Co.'s State 1, SW SW 32-7n-51w, Sterline area, Logan County, Colorado, moving in rotary; contracted Pulse Drilling Co. R. G. Parrent, discoverer West Sunburst pool, Toole County, Montana, spudded Bannister 1, SW SE SW 35-37n-3w, ½-mile north discovery. Mackinnie Oil & Drilling Co.'s Northern Pacific 1, NW NW 5-57n-99w, ½-mile west extreme south fault block Elk Basin field, Park County, Wyoming, 12½-in 250 ft, drilling 793 ft.

## California

### *Wildcats in Fresno and Kern Counties Testing*

A Fresno County wildcat appeared discouraging on formation test, and was coring deeper; Kern County project testing several zones.

**Fresno County:** General Petroleum Corp.'s Burrell 1, Sec. 2-17-18, test 6101-6259 ft, light blow gas with mud and water; coring shale 6315 ft.

**Kern County:** Kern Line Oil Co.'s Grapevine area wildcat, bottomed 8390 ft, perforated 7530-35 ft, slight blow gas, 2½ stands 45-gr oil, 22 stands water; to test 7465-7385, 7400-7300 and 7300-7245 ft.

## Michigan

### *Rotary Gains Favor for All-Way Drilling; Monitor Spread*

Continued strengthening acitvity indicated by 24 permits and 17 advance locations; wider application of rotary rigs for all-way drilling in Reed City field; Monitor pool, Bay County, extended on north and south sides.

**Reed City Field:** First 3-all-way rotary rig operations in field set producing string to 3580-3595 feet in 18 to 21 days, against average casing time of 30 to 35 days for same depth with combination program. Five rotary rigs now on all-way programs; five other rotary


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rigs being used for drilling to 1500-1700-ft Marshall casing point, with cable-tool completion; Gulf Refining Company so far chief user of rotary for full-hole drilling. Area had seven wells near completion point; 14 others drilling, 9 derricks, 7 locations.

**Bay County:** Chapman Oil Co.'s Duso 1, SW NE NE 34-15n-4e, mile north Monitor pool production, 27 bbls day natural, may acidize; production Dundee lime 2909 ft. Freeman Oil Co.'s Rae 1, SW SW NE 12-14n-4e, ½-mile south field, Dundee lime 2750 ft, bottomed 2912 ft, with 600 ft oil, 24 hrs natural. Gulf drilling Richmond shale at 9241 ft in Bateson 1, Sec. 2-14n-4e, state's deepest, due to log Trenton before 9400 ft, St. Peter 10,000-11,000 ft.

**Wildcats:** Merrill & Dean's Young 2, SE NW SW 9-17n-15w, Mason County, 8 bailers oil 2 hours following 150-qt shot Sylvania sand 3268-3303 ft; Caving delayed further testing. Jetter & DeKraft's Dauksza 1, SE SE NE 15-6n-10w, Kent County, Monroe lime 2400 ft, bottomed to acidize 2411 ft after testing.

### *Michigan Offers 57,000 Acres For Lease August 7-8*

Approximately 57,000 acres of Michigan state-owned land will be offered by the Department of Conservation for lease at auction, August 7 and 8 in Lansing.

Sale will include blocks in Osceola and Roscommon counties, areas recently opened up by spectacular oil discoveries. A 40-acre lease offsetting Gene Hilliard's State 1, Section 34-21n-3w, Roscommon County, is included in the list of lands to be leased.

The offering includes the largest block of leases for a single sale in a 20-month period, and also places state land for lease in the upper peninsula for the first time in history.

## Forest City Basin

### *Falls City Workovers Occupy Nebraska Operators*

Falls City pool workovers and deepening operations highlighted Nebraska activity; wildcat staked 3 miles south Nebraska-Kansas line.

**Falls City:** Ohio Oil Co.'s Bahr 5, C NW SE 7-1n-16e, north end production, Hunton 2295 ft, perforated 12 holes 2315-20 ft, hole filled oil, testing, estimated 500 bbls. Company's Sandrock 7, NW NE SW 20-1n-16e, bottomed 2236 ft in Hunton, pumped 145 bbls oil, 8 hours, cutting some water. E. C. Winters' Boice 2, NWc NE 18-1n-16e, shut down engine repairs 1750 ft.

E. J. Shaffer et al's Sandrock 3, NW SW NW 20-1n-16e, old total depth 2270 ft, deepened 2300 ft, hole filled fluid, 80 percent water, shut down orders. Ohio Oil Co.'s Bucholtz 3, SE NW SW 17-1n-16e, old total depth 2225 ft, deepening 2350 ft. Harry Harper et al's Seibbernson 4, SW NW NW 20-1n-16e, old total depth 2262 ft, Hunton 2242 ft, bottomed 2302 ft, pumped 460 bbls oil plug 20 percent water, 24 hours, water increasing. J. & M. Co.'s Towle 1, SE NW SW 20-1n-16e, rotating below 2300 ft.

**Shubert Pool:** Black Gold Operating Co.'s Parson 1, SEc 25-3n-15e, Richardson County, drilling 2275 ft. Company's Schaible 1, C SE NE 31-3n-16e, below 2600 ft. Three miles southeast Shubert and 7 miles northeast Falls City pool, Harry Harper's Horn 1, C E½ NE SE 35-3n-16e, moving in materials, supported by Skelly Oil Company.

**Harlan County:** Veeder Supply & Development Co. et al's Battin 1, C N½ SE NW 15 2n-18w, three shows oil Lansing lime 3385-90, 3540-60 and 3575-80 ft; Conglomerate 3770 ft, Viola 3858 ft, Simpson 3985 ft, Arbuckle 4046-4202 ft, total depth, shut down orders after running electrolog.

**Wildcat:** Phillips Petroleum Co. and Helmerich & Payne, Inc. drilling Wyatt 1, C E½ NE NE 2-1s-23w, 3 miles south Nebraska-Kansas line, Norton County, Kansas, on a prominent seismograph structure.

### *United Gas Stringing 80-Mile Telephone Line*

United Gas Pipe Line Company last week started construction on 80 miles of telephone line running from a point near Hattiesburg, Mississippi, to Mobile, Alabama.

The line will follow the company's main natural gas transmission line between Jackson and Mobile, and will connect stations along that line with Jackson and other points on the company's more than 3000 miles of main telephone line. Increasing demands for natural gas by industries, many engaged in filling national defense orders, and growth of the towns along the line made construction of the telephone line necessary to facilitate deliveries and communication along the pipe line.


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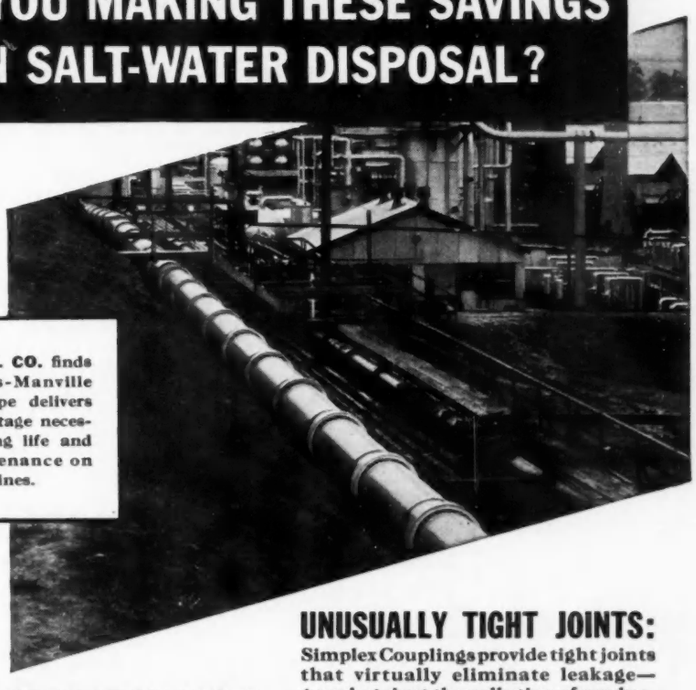

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# UNITED STATES WELL COMPLETIONS

## Arkansas

**La Fayette County (McKamie)—**
Carter, Cornelius Unit 1, 30-17-23 — Init. Prod. 392 Bbls. — Depth 9429
**Columbia County (Dorcheat)—**
Delta Dr. Co., Martel 1, 10-18-22 — Init. Prod. 480 Bbls. — Depth 8907
**Nevada County (Troy)—**
Berry Asphalt Co., Grayson 2, 4-14-20 — Init. Prod. * — Depth 2712
**Ouachita County (Stephens)—**
Ark. Fuel Oil Co., McGaughey 1, 6-15-18 — Init. Prod. * — Depth 5336
**Union County (Urbana)—**
Marine Oil Co., Thompson A-16, 31-18-13 — Init. Prod. 190 Bbls. — Depth 3000

## California

**Kern County (Coles Levee)—**
Ohio, KCL F-17, 47-2 — Init. Prod. 1128 Bbls. — Depth 9925
**Kern County (Grapevine)—**
Richfield, Tejon 2 — Init. Prod. * — Depth 4966
**Kern County (Kern Front)—**
General Pet., Young 44 (pb 1856) — Init. Prod. 113 Bbls. — Depth 1974
**Kern County (Midway-Maricopa)—**
Bankline Oil Co., No. 57-23 — Init. Prod. * — Depth 1104
**Kern County (Rio Bravo)—**
Superior, Anderson 1 — Init. Prod. 1752 Bbls. — Depth 11608
Union, Crites 43-28 — Init. Prod. 1107 Bbls. — Depth 11476
**Los Angeles County (Dominguez)—**
M. P. R. Oil Co., No. 1 — Init. Prod. 275 Bbls. — Depth 7238
Union, Austin 12 — Init. Prod. 538 Bbls. — Depth 7217
Austin 14 — Init. Prod. 440 Bbls. — Depth 7226
**Los Angeles County (Inglewood)—**
Hogan Pet. Co., Machado 1A — Init. Prod. 1546 Bbls. — Depth 8175
Royalty Service, Marlow-Burns 1 — Init. Prod. * — Depth 8787
**Los Angeles County (Rosecrans)—**
Union, Chandler 4 — Init. Prod. 121 Bbls. — Depth 6447
**Los Angeles County (Wilmington)—**
Continental Corp., LACFCD 8 — Init. Prod. 408 Bbls. — Depth 3045
Seashore Oil Co., Germac 9 — Init. Prod. No Est. Bbls. — Depth 3660
Union Pacific, UP 190 — Init. Prod. 257 Bbls. — Depth 3435
**Orange County (Huntington Beach)—**
Signal O. & G. Co., Signal Bolsa 33 — Init. Prod. 440 Bbls. — Depth 3643
**Orange County (West Coyote)—**
Wilshire Annex Oil Co., Comm. 1 — Init. Prod. * — Depth 9034
**Sacramento County (Rio Vista Gas)—**
Standard, NGC Unit 1 — Init. Prod. ¶ — Depth 4201
**Santa Barbara County (Capitan)—**
General Pet., Erburu 12 — Init. Prod. 465 Bbls. — Depth 2579
**Santa Barbara County (Santa Maria Valley)—**
R. R. Bush Oil Co., Hopkins 5 — Init. Prod. 2000 Bbls. — Depth 4655

*Failures; †Junked; ¶Million cu. ft. gas.

**Ventura County (Bardsdale)—**
F. E. Fairfield, Filmore 1 — Init. Prod. 125 Bbls. — Depth 3473
**Ventura County (Ventura Avenue)—**
British-Am. Oil Prod., Hartman 12 — Init. Prod. 239 Bbls. — Depth 9180
Tide Water, Lloyd 106 — Init. Prod. No Est. Bbls. — Depth 7420

**OLD WELLS DEEPENED**

**Los Angeles County (Long Beach)—**
Hilldon Oil Co., Flood Control 2 (otd 4310) — Init. Prod. 135 Bbls. — Depth 8135
**Los Angeles County (Santa Fe Springs)—**
Union, Bell 77 otd 4083) — Init. Prod. 102 Bbls. — Depth 5662

## Colorado

**Moffat County (Powder Wash)—**
Moutain Fuel Sup, Musser 3, nw sw 5-11n-97w — Init. Prod. * — Depth 5700

## Illinois

**Champaign County—**
J. T. Morse, Sheldon 1, nw sw nw se 11-19n-7e — Init. Prod. * — Depth 1500
**Clay County—**
Pure, Bayler 1, c e½ nw se 13-2n-7e — Init. Prod. 15 — Depth 3070
Gulf, Keck 1, nw sw se 26-4n-7e — Init. Prod. * — Depth 2356
Carl Robinson et al, Tolliver 4, se ne sw 26-4n-7e — Init. Prod. * — Depth 2346
Tolliver 5, ne ne sw 26-4n-7e — Init. Prod. 150 — Depth 2339
**Clinton County—**
Wiser Oil, Gullick 1, se se ne 28-2n-1w — Init. Prod. * — Depth 1577
**Effingham County—**
Luttrell et al, Mikaloites 1, ne nw sw 27-6n-5e — Init. Prod. 85 — Depth 2318
**Fayette County—**
Ohio, Williams 14, nw ne sw 36-6n-2e — Init. Prod. 49 — Depth 1610
Williams 15, sw ne sw 36-6n-2e — Init. Prod. 70 — Depth 1619
Carter, Shaw 7, ne ne ne 17-7n-3e — Init. Prod. 42 — Depth 1585
Reece 8, sw sw se 30-7n-3e — Init. Prod. 126 — Depth 1574
Doty 1, sw se se 1-8n-3e — Init. Prod. 84 — Depth 1484
Miller 2, ne nw ne 12-8n-3e — Init. Prod. 72 — Depth 1483
Wright 12-D, c e½ nw ne 21-8n-3e — Init. Prod. 208 — Depth 3146
Pierre 7, nw sw se 36-9n-3e — Init. Prod. 12 — Depth 1630
Oils, Inc., Wood 1-D, w½ ne se 16-8n-3e — Init. Prod. 80 — Depth 3157
**Franklin County—**
W. C. McBride, Chapman 2, n½ ne nw se 23-6s-2e (pb 2092) — Init. Prod. 150 — Depth 2095
Nation Oil Co., Beaty 1, sw ne nw 23-6s-2e — Init. Prod. 118 — Depth 2142
Adkins, Rice 7, e½ se se nw 25-6s-2e — Init. Prod. 208 — Depth 2107
Gibson Jennings, Simpson Hrs. 2, 3½ se se nw 25-6s-2e — Init. Prod. 287 — Depth 2139
Shell, Doty et al 10, c w l sw sw ne 25-6s-2e — Init. Prod. 158 — Depth 2148
CW&F Coal "RS" 9, ne sw nw 36-6s-2e — Init. Prod. 275 — Depth 2170
CW&F Coal "RS" 10, se se nw 36-6s-2e — Init. Prod. 360 — Depth 2161
Bay Oil, D. Johnston 1, se sw se 17-6s-3e — Init. Prod. * — Depth 2222
**Gallatin County—**
Carter, D. M. Jones 1, ne sw sw 4-8s-8e — Init. Prod. 49 — Depth 1927
Buell & Herndon, Egypt, T&T 2-A, se nw sw 15-8s-10e — Init. Prod. 30 — Depth 2444
Phillips, Egypt, T&T 8, sw ne ne 16-8s-10e — Init. Prod. 100 — Depth 2089
Egypt, T&T 10, sw ne ne 16-8s-10e — Init. Prod. 90 — Depth 790
**Hamilton County—**
Gulf, Zellars 2, sw ne se 27-3s-5e — Init. Prod. 150 — Depth 3309
Dick Duncan, Zellars 2, ne ne ne 34-3s-5e — Init. Prod. 153 — Depth 3337
Mid-Sun Oil Corp., Hall 1, se nw sw 19-4s-5e — Init. Prod. * — Depth 3521
Texas, Shasteen 1, c e½ se sw 27-6s-6e — Init. Prod. 161 — Depth 3289
Pure, Cuppy 7, se se sw 6-6s-7e — Init. Prod. 624 — Depth 2980
Cameron Bros., Mayberry 2, sw sw se 7-6s-7e — Init. Prod. 925 — Depth 3021
**Jefferson County—**
Chris Pearson, Carpenter 2, w½ w½ ne sw 10-1s-2e — Init. Prod. 140 — Depth 1962
**Marion County—**
Texas, Wayman 29, se ne ne 31-2n-2e — Init. Prod. 110 — Depth 4575
Adams O. & G., Pugh 9, ne sw ne 29-4n-1e — Init. Prod. * — Depth 1592
Magnolia, Peddicord 4, ne sw se 34-4n-1e — Init. Prod. 47 — Depth 1384
Shell, Hedley 4, ne sw ne 34-4n-1e — Init. Prod. 108 — Depth 1473
**Randolph County—**
Ruwaldt, Schuette 1, ne ne sw 35-5s-5w — Init. Prod. * — Depth 1175
S. E. Whitton et al, Inselman 1, se se ne 5-7s-5w — Init. Prod. * — Depth 1010
**Richland County—**
Pure, Holtz 1, c w½ ne ne 7-4n-10e — Init. Prod. * — Depth 2918
Delzoll 1, c e½ ne se 30-5n-10e — Init. Prod. 1190 — Depth 2860
Utterback 2, c s½ sw nw 29-5n-10e — Init. Prod. 1259 — Depth 2875
**Wabash County—**
Shell, Hein 5, w½ ne se 18-1s-12w — Init. Prod. 104 — Depth 2061
Hayes, Zimmerman 1, nw nw se 36-1n-13w (pb 2368) — Init. Prod. 10 — Depth 2580
Jackson, Freeman 3, ne se ne 36-2n-12w — Init. Prod. 100 — Depth 1951
Joe Young, Sparks 1-A s½ nw sw se 36-2n-12w — Init. Prod. * — Depth 2216

[*Continued on next page*]

## Summary of Drilling Operations in the United States, Week Ended July 26, 1941

| | WELLS COMPLETED | | | | | | | | *PERMITS FOR NEW WELLS | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total for Week | New Wells Drilled for Oil and Gas: Oil Wells | Gas Wells | Failures | †Miscellaneous | Initial Production | Total 1941 | Total this Date 1940 | This Week | Total this Month | Total 1941 | Total this Date 1940 | Year Total 1940 |
| Alabama | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 3 | ..... | ..... | ..... | ..... | ..... |
| Arkansas | 5 | 3 | ..... | 2 | ..... | 1,062 | 93 | 107 | 3 | 18 | 103 | 87 | 153 |
| California | 25 | 20 | 1 | 4 | ..... | 11,191 | 659 | 651 | 28 | 106 | 650 | 629 | 1,042 |
| Colorado | 1 | ..... | ..... | 1 | ..... | ..... | * 10 | 4 | ..... | ..... | ..... | ..... | ..... |
| Florida | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... |
| Georgia | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... |
| Illinois | 74 | 58 | ..... | 16 | ..... | 10,474 | 1,994 | 2,272 | 91 | 396 | 2,539 | 2,620 | 4,532 |
| Indiana | 12 | 10 | ..... | 2 | ..... | 671 | 299 | 242 | 12‡ | 49 | 94 | ..... | ..... |
| Iowa | ..... | ..... | ..... | ..... | ..... | ..... | 2 | ..... | ..... | ..... | ..... | ..... | ..... |
| Kansas | 54 | 45 | 1 | 8 | ..... | 43,000 | 1,243 | 1,110 | 56 | 185 | 1,304 | 1,172 | 2,048 |
| Kentucky | 10 | 5 | ..... | 4 | 1 | 122 | 169 | 183 | 4‡ | 26 | 47 | ..... | ..... |
| Louisiana | 35 | 25 | 1 | 9 | ..... | 4,484 | 804 | 980 | 31 | 152 | 988 | 958 | 1,658 |
| Michigan | 19 | 9 | 8 | 2 | ..... | 5,630 | 458 | 733 | 24 | 79 | 480 | 663 | 1,093 |
| Mississippi | 6 | 5 | 1 | ..... | ..... | 4,195 | 102 | 114 | ..... | ..... | ..... | ..... | ..... |
| *Missouri | ..... | ..... | ..... | ..... | ..... | ..... | 33 | 7 | ..... | 1 | 9 | ..... | 26 |
| Montana | ..... | ..... | ..... | ..... | ..... | ..... | 109 | 104 | ..... | ..... | ..... | ..... | ..... |
| *Nebraska | 1 | 1 | ..... | ..... | ..... | 52 | 48 | 1 | 1 | 5 | 52 | ..... | 69 |
| New Mexico | 7 | 5 | ..... | 2 | ..... | 457 | 200 | 418 | 15 | 39 | 241 | 374 | 559 |
| New York | 27 | 20 | ..... | ..... | 7 | 127 | 498 | 614 | ..... | ..... | ..... | ..... | ..... |
| Ohio | 28 | 6 | 12 | 10 | ..... | 73 | 927 | 488 | ..... | ..... | ..... | ..... | ..... |
| Oklahoma | 51 | 37 | 4 | 8 | 2 | 12,714 | 1,183 | 1,267 | 49 | 217 | 1,233 | 1,061 | 1,888 |
| Pennsylvania | 59 | 41 | 9 | 2 | 7 | 46 | 2,121 | 2,237 | ..... | ..... | ..... | ..... | ..... |
| South Dakota | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... |
| Tennessee | ..... | ..... | ..... | ..... | ..... | ..... | 7 | 8 | ..... | ..... | ..... | ..... | ..... |
| Texas | 234 | 171 | 1 | 61 | 1 | 96,642 | 5,652 | 6,094 | 260 | 1,142 | 6,860 | 6,935 | 11,170 |
| Utah | 1 | ..... | 1 | ..... | ..... | ..... | 1 | 2 | ..... | ..... | ..... | ..... | ..... |
| West Virginia | 14 | 1 | 11 | 2 | ..... | 2 | 370 | 315 | ..... | ..... | 163 | 431 | 782 |
| Wyoming | 4 | 3 | ..... | ..... | 1 | 2,320 | 66 | 85 | ..... | ..... | ..... | 1 | 1 |
| Total this week | 667 | 465 | 50 | 133 | 19 | 193,262 | 17,050 | 18,041 | 574 | 2,415 | 14,763 | 14,931 | 25,021 |
| Total last week | 710 | 468 | 43 | 159 | 40 | 188,632 | 16,383 | 17,391 | 613 | 1,841 | 14,189 | 14,330 | 25,021 |
| Total this year | 17,050 | 10,471 | 1,250 | 3,764 | 1,565 | 4,828,172 | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

* This tabulation includes those states where weekly data are available; figures for Missouri date from August 10, 1940; Nebraska from August 3, 1940.
‡ No data available before June 14, 1941.
† Includes old wells deepened, water-intake, gas input, and salt water disposal wells.

# United States Well Completions—*Continued*

Company, Well and Location — Init. Prod. Bbls. — Depth

**Washington County—**
Ohio, Poggenmoeller 1, sw sw se 10-1s-1w ..... 118 1524
**Wayne County—**
New Penn. Dev., Bothwell 1, e½ sw nw se 18-2n-9e ..... • 3507
Smokey Oil, Chalcraft 1, c w½ ne nw 19-2n-10e ..... • 3425
Texas, Lewis 1, c s½ ne sw 5-3s-6e • 3570
Pure, Duke 1, n½ sw se 1-1n-7e.. 23 3043
Hubble 10, n½ ne se ne 5-1n-8e.. 44 3090
Hornbuckle 2, c e½ nw se 19-2n-8e ..... 10 3120
Hosselton 2, sw ne ne 31-2n-8e 72 3025
J. W. Sanders et al, Hosselton 1, n½ sw nw sw 29-2n-8e ..... 111 3069
Hubbell 6, sw nw ne nw 31-2n-8e 135 3060
**White County—**
Wabash O. & G. Co., Reeves 4, nw ne sw 28-3s-14w ..... 192 2582
Paul Miller, Ford 5-A-1 ne sw sw 16-4s-14w ..... 75 2855
Superior, Ford 13, sw nw sw 27-4s-14w ..... 150 2845
Standley 4, nw sw nw 27-4s-14w 150 2870
Fitton A-3 sw sw se 28-4s-14w.. 220 2725
Fitton A-13, se sw sw 28-4s-14w 110 2730
Ford 1, nw sw se 28-4s-14w .... 90 2925
Phillips, Garr 4, se se se 35-4s-10e 90 2977
White & Wilkerson, Finch 2, ne ne ne 7-5s-14w ..... • 3014
Sinclair Wyoming, Mitchell 3, nw nw se 11-7s-8e ..... 298 2174
Boettecher 3, nw ne sw 19-7s-11e 50 2778
Boetlicher 4, ne se sw 19-7s-11e 320 2730

**OLD WELLS REWORKED**

**Hamilton County—**
Tide Water, Morio 6, sw ne se 3-6s-6e (otd 3075) ..... 191 3083
**Marion County—**
Magnolia, Young 23, nw nw ne 29-2n-2e (otd 3412) ..... 40 4625
**Wabash County—**
Straube & Straube, Gilliem 1, nw nw nw sw 17-1s-12w (otd 1574) (pb 2058) ..... 84 2168
Longhorn Oil, Broster 1, se se se 9-3s-14w (otd 1867) ..... • 3078

## Indiana

**Gibson County—**
Papoose Oil, Cooper B3, sw se sw 12-3s-14w ..... 18 2925
Hall Edwards Rec., Maier 36, ne nw ne 14-3s-14w ..... • 2994
Continental Oil, Kleiderer B5, sw ne sw 26-3s-14w ..... 35 2811
Gulf Ref., Conrad 1, se ne nw 10-3s-9w ..... • 1607
**Posey County—**
Continental Oil, Mumford Realty 2, nw nw sw 33-3s-13w ..... 5 2837
Keck 23, se ne sw 27-3s-14w.... 24 2901
Keck 26, se sw se 27-3s-14w .. 43 2889
W. C. McBride, Inc., Blood 4, se ne se 28-3s-14w ..... 55 2917
**Vandenburg County—**
Lloyd Sparrow, Steinkamp 2, c w½ e½ nw¼ 5-7s-11w ..... 11 1074

**OLD WELLS REWORKED**

**Gibson County—**
Hall Edwards Rec., Maier 9-A, sw se se 14-3s-14w (otd 2520) .... 150 2532
Maier 11-A, sw ne se 14-3s-14w (otd 2520) ..... 150 2526
**Posey County—**
C. W. McKeehan Tr., Keck 4, nw sw nw 35-3s-14w (otd 2538).... 180 2583

## Kansas

**Barber County—**
Barbara, McKee 6, c ne 20-33-13w ¶10.5 4614
**Barton County—**
Black-Marshall Redetzke 1, c s½ sw nw 5-16-11w ..... • 3337
Hoffman 2, c w½ ne se 13-16-12w .....1861 3366
B. B. & M. et al, Krier "A" 3, c w½ ne se 30-16-11w .....1439 3075
Cities Service, Kosar 4, c s½ sw se 5-16-13w ..... • 3420
Shell, Batt "B" 2, nw se se 2-16-14w .....1401 3348
Kaiser & Wakefield, Templing 3, c w½ se se 11-16-14w ..... 52 3400
Ohio, Riemann 1, c s½ sw sw 4-17-11w ..... 360 3338
Musenberg 1, c e½ se se 10-19-11w ..... • 3396
Texas, Henning 3, c w½ se nw 22-19-11w .....2880 3144
Stanolind, Radenberg 1, c n½ ne ne 8-17-11w (pb 3341) ..... 64 3344
Helmerich & Payne et al, Roth 1, c w½ nw ne 30-19-11w ..... • 3404
Derby et al, State 8, nw sw ne sw 10-20-11w ..... 382 3291
Lario & I. T. I. O., Zahorsky "A" 5, c w½ ne ne 23-20-11w ..... 274 3321
**Butler County**
Simpson, Lessman 3, nwc 20-29-4e • 1945
**Ellis County—**
Champlin, Mock 1, swc ne 17-11-17w .....3000 3355
Cities Service, McCord 10, se ne se 26-11-17w .....2850 3605
Gulf, Seldkamp 1, c e½ se nw 11-11-18w .....3000 3473
Phillips, Hugh 3, c e½ sw ne 14-11-18w .....3000 3410
Shell, Deane 1, nec 14-11-18w ....3000 3368
Doley, Koblitz 3, c w½ nw nw 23-12-18w ..... 625 3677
Bridgeport, Froelich "A" 3, c w½ ne se 4-13-16w (pb 3243) ..... 174 3254
Darby, Younker 1, c n½ nw nw 20-13-17w ..... 96 3697
**Greenwood County—**
McGinnis, Kellar 2, sw sw ne 22-26-13e ..... • 1802
K. T. Weideman, Lewis "A" 8, se nw nw 36-27-8e ..... 25 2728
**Marion County—**
Larieux & Herrington, Novak 3, nw sw sw 28-17-4e ..... 48 2510
Hauser et al, Hauser 3, c e½ nw ne 33-17-4e ..... 163 2451
National Ref. Co., Reamey 21, c n½ ne ne 20-21-4e ..... 45 2064
**McPherson County—**
Stelbar, Zietlow 3, c e½ nw sw 19-17-1w ..... 900 2733
Shell, Koehn 6, c w½ nw ne 16-21-3w ..... 90 3393
**Phillips County**
Carter et al, Friebus 1, c w½ sw nw 36-2-19w (pb 3250) ..... 328 3861
Cities Service, Johnson "B" 3, nec se 31-5-20w .....1299 3584
**Rice County—**
Bay, Grizzell, ne se nw 8-19-9w ..3000 3233
Cities Service, Habiger 3, nw se ne 20-19-9w .....1822 3248
**Rooks County—**
Broadview, Beardmore 6, c n½ nw sw 2-9-16w ..... 653 3202
Beardmore 7, c n½ ne sw 2-9-16w ..... 316 3240
Clay Bros. Drg Co. et al, Anderson 1, c w½ sw sw 28-9-16w ..... • 3590
**Rush County—**
Schermerhorn, Schroeder 5, nwc ne 36-18-16w ..... 539 3596
**Russell County—**
Falcon-Seaboard, Stevens 1, c e½ sw sw 3-13-14w ..... • 3145
Mid-Continent, Letsch 8, ne sw nw 26-14-13w ..... 476 2881
Coralena, Phinney 9, sw se ne 30-14-13w ..... 186 2943
Hartman & Blair, Gurney "B" 2, se sw se 23-14-14w ..... 692 3170
Cities Service, Hickey 4, c n½ nw se 25-14-14w (pb 3144) ..... 789 3192
Westgate-Greenland, Rusch 2, c w½ se ne 29-14-14w (pb 3120) ..... 29 3237
John Lindos et al, Boxberger 3, c w½ se sw 24-14-15w ..... 439 3207
Skelly, Ehrlich 4, c w½ nw ne 25-14-15w (pb 3180) ..... 73 3194
Isern Bros. et al, Shultz 2, c w½ se ne 16-15-13w ..... 36 3362
Continental, Meharg 9, ne se ne 17-15-13w ..... 940 3125
Ohio, Maier 1, c e½ se sw 10-15-14w 394 3221
**Stafford County—**
Stanolind, Ahnert 1, c e½ ne se 26-22-13w (pb 3761) .....1440 3765
Ferris "A" 5, c w½ nw se 15-24-11w ..... 100 3824
Charles 5, c n½ se se 15-24-12w 3000 3838
Cities Service, Jenkins 1, c e½ se sw 15-24-12w ..... • 4068

**OLD WELLS DEEPENED**

**Russell County—**
Texas, Brandenberg 1, nwc 20-14-14w (otd 3031) ..... 225 3077
Brandenberg 2, ne nw nw 20-14-14w (otd 3050) ..... 475 3084

## Kentucky

**Breckenridge County—**
Rex Pyramids, Summers 1, 6-N-37 • 1600
**Butler County—**
Billy Phillips, Hawes 4, 4-H-33... 7 530
**Daviess County—**
Daugherty, Hewlett 5, 16-N-31... 10 710
**Henderson County—**
Hupp, King-Pruitt 5, 23-P-26..... 60 1559
**McLean County—**
Sam Malis, Barthimus 1, 25-M-29.. 35 1369
**Ohio County—**
Sohio Prod., Ferguson 6, 10-M-32.. • 666
J. W. Tuttle, Mimsapp 6, 12-M-32 10 243
Henry Scholl, Royal 7, 13-N-33.. • 824
Royal 8, 13-N-33 ..... • 780

**INPUT WELL**

**Daviess County—**
Andy Teller, Lebold 6, 12-N-28... .. 1274

## North Louisiana

**Bossier Parish (Bellevue)—**
Premier Inv. Co., Wyche 47, 14-19n-11w ..... 10 398
**Caddo Parish (Pine Island)—**
Southern O&G Co., Stiles 1, 32-21n-16w ..... 20 1867
W. E. Stewart et al, McEarchern 1, 32-21n-15w ..... 50 1592
Weaver-Perry Oil Corp., Pardue 11, 33-21n-15w ..... 12 1586
**La Salle Parish (Little Creek)—**
H. L. Hunt, Tannehill 1, 31-9n-2e 90 2738
Tannehill 2, 31-9n-2e ..... 100 3718
Tannehill 3, 31-9n-2e ..... 75 2727
**La Salle Parish (Nebo-Jena)—**
H. L. Hunt, Goodpine C-2, 38-8n-2e 95 3835
Goodpine C-3, 32-8n-3e ..... • 4875
**La Salle Parish (Olla)—**
Ark. Fuel Oil Co., Tremont A-14, 3-9n-2e ..... 50 2385
Placid Oil Co., La. Central Lbr. Co. 98, 31-10n-3e ..... 75 2861
La. Central Lbr. 100, 2-9n-2e.. 85 2451
**Union Parish (Monroe)—**
N. & W. Corp., Halle 1, 2-21n-3e.. ¶2 2180
**Union Parish (Oakland)—**
Walter B. Ralneck, Hudson 4, 7-23n-1e ..... • 2340

## South Louisiana

**Acadia Parish (Ritchie)—**
Vincent & Welch & Nicklos, Hayes 3 ..... 96 3505
**Beauregard Parish (Neale)—**
Atlantic, Musser-Davis 5 ..... 284 11,175
**Calcasieu Parish (Gillis)—**
Union Sulphur, Castle 14 ..... 142 7183
**Cameron Parish (Wildcat)—**
Mayo & Echols, School Land 1 (Johnson Bayou)— ..... • 6009
**Cameron Parish (Sweet Lake)—**
Pure, Yount-Lee 23 ..... • 7869
**East Baton Rouge Parish (University)—**
Wm. Helis et al, L. S. U. 7-A.... • 7510
**Evangeline Parish (Ville Platte)—**
Continental, Opelousas-St. Landry-Derouen 3 ..... 370 10,228
Gulf's Hirsch 2-B ..... 426 10,142
**Iberville Parish (Bayou Blue)—**
Navarro, Wilberts 8 ..... 130 2307
**Jefferson Parish (Barataria)—**
California Co., Fleming Plant C-5 300 7679
**Jefferson Davis Parish (Iowa)—**
Stanolind, Willett 2 ..... 432 8900
**La Fourche Parish (Lake Long)—**
Fohs & Pilgrim, Allen Ranch 1... ¶ 10,045
**St. Charles Parish (Lake Salvador)—**
The Texas Co.'s State 8 ..... 541 10,341
**St. Martin Parish (Anse La Butte)—**
Central O. Co.., Fee 1-A ..... 75 2965
Crosby Dr. Co., Republic 3 ..... 317 6230
Fotiades, Roy 2 ..... • 6367
Stanolind, M. Hebert 1 ..... • 5833
Stanolind's C. Ralls 3 ..... • 4747
**St. Martin Parish (West Lake Verret)—**
Shell, St. Martin Parish School Board 2 ..... 211 8388
**Terrebonne Parish (Caillou Island)—**
Texas Co., State 4 ..... 150 8020
**West Baton Rouge Parish (Port Allen)—**
Amerada, Wilberts 2 ..... 348 9721

## Michigan

**Allegan County—**
W. L. McClanahan, Mortenson 1, sw sw sw 36-1n-14w ..... • 1271
Muskegon Oil Corp., Siewald 1, sw se nw 29-4n-12w ..... 18 1640
**Arenac County—**
Don Rayburn, White 2, se sw sw 24-19n-3e ..... 25 2964
**Bay County—**
Chapman Oil Co., Duso 1, sw ne ne 34-15n-4e ..... 27 2909
**Cass County—**
H. T. Barnaby, Roberts 1, sw sw nw 23-8s-15w ..... 45 646
**Clare County—**
Pure Oil, Swindlehurst 3, c e½ se nw 32-20n-6w ..... 60 3758
**Isabella County—**
G. M. Obenauer, Diehl 1, se se sw 14-14n-6w .....¶¾ 1399
L. & S. Dr. Co., O'Brien 1, se sw nw 20-14n-5w .....¶2½ 1279
**Kent County—**
A. S. Cochran, Oudermeoulen 1, sw sw se 3-5n-12w ..... • 1846
Voorhees Dr. Co., Hesselink 1, nw sw sw 7-6n-12w ..... • 2421
**Midland County—**
Dougherty & Markey, Johndrew 1, sw nw sw 16-15n-2w ..... • 3766
**Ottawa County—**
Southwest Dev. Co., Miller 1, nw ne sw 26-5n-13w ..... • 1860
H. C. Williams, Cavin 2, nw ne ne 33-7n-13w ..... 25 1869
**Van Buren County—**
Clapsaddle & Harris, Brooks 1, se se nw 2-1s-14w ..... • 1328
Teal 2, se sw sw 1-1s-15w ..... • 1198

[*Continued on next page*]

# United States Well Completions—*Continued*

Company, Well and Location | Init. Prod. Bbls. | Depth

## MICHIGAN—Continued

N. R. Dodd, Helms 1, se se ne 2-1s-14w ..... 30 1309
L. F. Mihlheim Theisen 2, nw se sw 18-4s-13w ..... * 1360

**OLD WELLS DEEPENED**

**Osceola County—**
Weber Oil Co., Gable 1, ne ne sw 31-18n-10w (otd 3635).....1800 3641
Fatum 1, se sw sw 30-18n-10w (otd 3517) .....3600 3621

## Mississippi

**Hinds County (Jackson)—**
City of Jackson, State 3, 25-6n-1e..¶20 2415
**Yazoo County (Tinsley Dome)—**
Midstates Oil Corp., Cummings 2, 31-10n-2w ..... 650 5007
Cummings 4, 31-10n-2w ..... 765 4983
G. L. Reasor, Sorrells 3, 31-10n-2w.1080 4988
Union Prod. Co., N. Berry 6, 25-10n-3w ..... 715 5041
Middleton 3, 35-10n-3w..... 985 4825

## Nebraska

**Richardson County—**
Black Gold, Schaible 1, c se ne 31-3n-16e ..... 52 2521

## New Mexico

**Chaves County (Wildcat)—**
R. I. Wilson et al, Brown 1, c nw sw 29-11s-23e ..... * 2000
**Eddy County—**
Herbert Aid et al, State-Wentz 1, swc se 24-17s-28e (pb 895) .... 34 2840
Comanche Dr. Co.-Sam Sanders, Berry 14, se sw se 24-17s-27e.. * 487
Flynn-Welch-Yates, Travis 2, nwc se 8-18s-29e ..... 10 2719
Shumacher & Ritchey, Root 1, c sw se 1-17s-29e ..... 17 2702
**Lea County (Rhodes)—**
Krupp-Flaherty Oil Co., Moberly 1-C, c se nw 21-26s-37e ..... 146 3310
**Lea County (Wildcat)—**
H. W. Leonard-Van Welch, State 1, c nw nw 18-20s-33e ..... 250 3103

## New York

**Allegany County—**
Ebenezer Oil Co., Herrick farm, Bolivar ..... 10 1376
B. & B. Oil Co., Stohr farm, Bolivar ..... 8 1385
Sawyer & Martin, Wasson farm, Bolivar ..... 9 1422
Tyler & Livermore, Root farm, Bolivar ..... 5 1283
Messer Oil Co., Shaner farm, Bolivar ..... 10 1539
McDonell Oil Co., Goodrich farm, Bolivar ..... 7 1342
Ebenezer Oil Co., Emerson farm, Scio ..... 7 1086
McEnroe & Randall, Reid farm, Alma ..... 6 1429
Bradley Prod., Duke Farm, Alma.. 7 1538
Curt Oil Co., Williams farm, Alma ..... 5 1388
Withey Est. & J. J. Green, Green farm, Alma ..... 6 1380
J. P. Herrick No. 3, Howe farm, Bolivar ..... 5 1416
McEbenwood Oil Co., Dougherty farm, Andover ..... 6 1369
Scio O. & G. Co., Fuller farm, Scio 6 890
Hughes Bros., Hughes farm, Genesee ..... 5 1420
Cleveland Oil Co., Sawyer farm, Clarksville ..... 6 1412
Bradley Prod. Corp., Coats farm, Wirt ..... 5 1281
Gray Oil Co., Smith farm, Genesee 4 1364
Bradley, Carter & Streeter, Davidson farm, Wirt ..... 5 1339
Conklin & Wightman, Wetherby farm, Clarksville ..... 5 1358

**WATER INTAKE WELLS**

**Allegany County—**
South Bolivar Oil Co., McKelvey farm, Bolivar ..... .. 1341
Brothers Oil Co., Crandall farm, Bolivar ..... .. 1390
Otsquago Corp. Pike farm, Alma.. .. 1429
Marsh Oil Co., Fay farm, Bolivar .. 1361
L. H. Thornton et al, Cornwell farm, Willing ..... .. 1262
McEbenwood Oil Co., Lynch farm, Andover ..... .. 1339
R. B. Moore, Thomas farm, Bolivar ..... .. 1410

## Ohio

**Ashland County—**
Ohio Fuel Gas, Buchanan ..... * 2975
**Athens County—**
G. & K. Oil, Vandyke .....¶0.5 983
Brooks Johnson, Shaw 1 .....¶0.15 855
**Belmont County—**
Barnesville Dev., Wilson 1 ..... * 1162
**Cuyahoga County—**
Snyder, Stone 1 ..... * 2850
**Guernsey County—**
Dave Ferguson, Milliken 1 ..... * 1380
**Harrison County—**
East Ohio Gas, Phillips 1 .....¶0.57 5899
**Hocking County—**
Preston Oil, Sunday Creek Coal 1174 ..... * 3667
**Jefferson County—**
Cecil Sanders et al, Wilson Hrs. 1.¶0.08 740
**Knox County—**
Preson Oil, Earlywine 1 ..... 40 2957
**Lawrence County—**
Petri & Noomen, McMahan 1 ....¶0.17 3059
**Licking County—**
Copperhead O. & G., Thompson 4.. 11 600
O. P. Spangler et al, Conner 3.... 9 730
Lacknette et al, Burnett 1 .....¶1.0 2492
**Medina County—**
Preston Oil, Carr 2 ..... 8 515
Carr 1 ..... 3 522
M. L. Packard, Crocker 8 ..... 2 492
Wm. Dempsey, Welton 1 ..... * 502
**Meigs County—**
Guy Swadley et al, Fee 1 ..... * 735
**Morgan County—**
Pure Oil, Fouts 1 .....¶10.0 4212
**Muskingum County—**
Industrial Gas, Twyman 1 ..... ¶1.6 4236
Ohio Fuel Gas, Stacker 1 ..... ¶0.5 4195
**Noble County—**
Eugene Ward et al, Ward 2 .... * 891
**Perry County—**
B. G. Davis et al, Beachman 7 ¶0.1 & 40 3279
**Stark County—**
J. C. Steiner, Williams 1 .....¶0.6 4584
**Washington County—**
Harris, Pegg 1 .....¶0.06 1451
Wm. Atkinson, Fee 1 ..... * 350
**Wayne County—**
Ohio Oil, Armstrong 8 ..... * 6116

## Oklahoma

**Caddo County—**
Ohio, Surbeck 6, ne sw sw 2-5n-9w ¶18.59 4971
Lackey 9, sw ne se nw 11-5n-9w 938 3360
S. D. Butcher, Walker 1, se ne se ne 1-5n-10w .....1179 3500
**Carter County—**
Skelly, Miller 4, se sw ne 5-1s-3w 234 2950
S. & D. Daube, Fee 7, se nw sw sw 17-4s-2w ..... 552 2226
Tide Water, Ward 4, ne sec ne 19-4s-2w ..... 480 2239
Gibson & Jennings et al's Woodsworth 2, se ne sw nw 20-4s-2w . 535 2047
Carter Oil, Voorhees 10, c w½ nw sw 21-4s-2w ..... 276 2310
Sun, Mullen "B" 36, se se nw sw 3-4s-3w ..... 40 1034
**Creek County—**
Devonian, Hamilton 1, nw sw se 32-15n-7e ..... 326 2825
Lewis, Jones 6, sw se sw 32-15n-7e 140 2870
Shell, Jones 3, swc nw 32-15n-7e .. 31 4067
Jones 8, se sw nw 32-15n-7e ... 98 2808
A. B. Ice, Little Head 1, sec ne 19-17n-10e (pb 676) ..... 3 2176
L. B. Jackson, Davis 1, nwc sw 17-18n-10e ..... * 2753
Abe Pepis, Land 1-A, ne nw ne 16-18n-11e (pb 1825) ..... 5 1875
Gled Oil Co., Anthis 1, nw ne se 9-19n-9e ..... * 2100
**Hughes County—**
Commerical Drg Co., Harris 1, nw ne sw 5-6n-8e ..... * 3052
Tri Oil Co., Breeding 2, c nw ne 12-7n-8e ..... 16 1097
**Jefferson County—**
Johnson Drg Co., Barrett 1, sw se ne 14-6s-6w ..... * 2003
**Le Flore County—**
Western Okla. Gas Co., Ward 1, sw nw sw nw 27-9n-24e ..... ¶12.0 5795
**Logan County—**
Continental, Donoghue "A" 2, nw ne sw 7-17n-1w ..... 650 5481
Donoghue "A" 4, se ne sw 7-17n-1w .....1432 5476
McBride, Eastwood 3, nwc sw 7-17n-1w .....1200 5504
Sunray et al, Donoghue 2, nwc se 7-17n-1w .....1500 5458
**Kay County—**
National Union O. & G., Andrews 3-A, nec 30-28n-1e ..... 85 3370
**Noble County—**
Superior, Faubion 1, se sw se 16-22n-1e ..... 265 4925
**Okfuskee County—**
J. M. Davidson, Lehmer 1, ne sw nw 17-12n-8e ..... * 4410
**Oklahoma County—**
Phillips, Turner 1, sw sw se nw 34-12n-3w ..... 571 6555
**Okmulgee County—**
Wood, Palmer 1, csl se ne nw 13-12n-12e ..... ¶4.0 2049
E. Walker, Duff 1-A, c se se 11-14n-12e ..... * 2180
**Osage County—**
Madeline Norris, 7, ne nec nw 22-21n-12e ..... 10 1302
Continental, 10, sw nw se se 5-23n-9e ..... 65 2140
Blackwell, 12, ne nw sw 3-28n-11e 42 956
**Pawnee County—**
E. W. Brewer, Rich 1, ne se nw 28-20n-9e ..... * 2320
**Pittsburg County—**
S. J. Campbell, Vaughn 1, nec nw 20-3n-12e ..... ¶3.0 1680
**Pontotoc County—**
L. S. Dennis, Pettyjohn 2, sw se sw 1-1n-7e (pb 917) ..... 10 1500
**Pottawatomie County—**
Culver & Shephard, Waite 5, nwc se 9-5n-5e ..... 60 2515
I. T. I. O., Weems 8, nwc sw 21-7n-5e ..... 73 2813
Amerada, Peters 2, ne nw se 27-8n-4e .....765 3925
C. W. Sharpe et al, Billington 1, nw se se 21-9n-4e (pb 4597) .... 500 4640
Hall-Jordan, Pensoneau 3, swc 36-10n-3e ..... 300 5272
Amerada, Willmott 1, c s½ ne se 30-9n-6e ..... 108 4165
**Seminole County—**
Stanolind, Davis 1, nwc sw 33-9n-8e ..... 34 4363
**Stephens County—**
Amerada & Stanolind, Frensley 1, sw nw sw 25-1s-5w ..... 3 805
Skelly, Robbertson 4, c ne ne 35-1s-5w (pb 7580) ..... 138 7808
Magnolia, Wilson 30, se nw sw sw 1-2s-5w ..... 48 439

**OLD WELLS DEEPENED**

**Caddo County—**
Magnolia, Niles 9, nec nw 36-6n-10w (otd 2723) ..... * 3598
**Pawnee County—**
Peter Adamson, Liscomb 1, nw ne sw sw 3-20n-8e (otd 1500) (pb 1546) ..... 2 2620

**GAS INPUT WELLS**

**Creek County—**
Sinclair-Prairie, Berryhill 25, ne sw nw 16-17n-12e ..... ... 1552
Barnsdall, 2, ne nw sw ne 30-21n-9e (pb 381) ..... ... 402

## Pennsylvania

**BRADFORD DISTRICT**

V. G. Smith, Fee ..... ½ ....
Producers Bank & Tr. Co., Fee... 2 ....
J. P. Kervin, South Penn Oil Co... 1½ ....
Lane No. 1 et al, Bing 412..... 2 ....
D. Y. M. Corp., Bing 466..... 1 ....
Duek & Buck, Duke ..... 2 ....
Forest Oil Corp. ..... 1 ....
Forest Pet. Corp. ..... 2 ....
Niagara Oil Corp., 6 wells ..... 6 ....
Bradford Tr. Co., 24 wells ..... 24 ....

**WATER INTAKE WELLS**

Penn Valley Crude Oil No. 2, Fee .. ....
Forest Pet. Corp., 2 wells ..... .. ....
Forest Oil Corp., 2 wells ..... .. ....
Niagara Oil Corp., 2 wells ..... .. ....

**NEW YORK-PENN GAS FIELD**

Hanley & Bird, Roose 1-A ..... ¶ ....

**MIDDLE DISTRICT**

Exchange Bank & Tr. Co., Raymond ..... 1 ....
F. A. & W. L. Fleming, Fleming 1 ....
S. E. Kapp, Lester ..... 1 ....
Ohio Oil, Carnegie-Illinois ..... ¶ ....

**BUTLER-ARMSTRONG DISTRICT**

A. & H. D. Beikert, Beikert ..... * ....

**SOUTHWEST DISTRICT**

**Armstrong County—**
James Wright, St. Clair 1 .....¶0.24 3510
Shaw & Townsend, Whitlinger Hrs. 1 .....¶0.14 3472
T. W. Phillips, Wagley 3 .....¶0.06 3456
**Clarion County—**
Frank Knight, Bowersox 2 .....¶0.02 3071
**Fayette County—**
Geo. L. Yaste et al, Atlas Coal 1.¶0.3 1560
**Greene County—**
Equitable Gas, Wade 1 .....¶0.08 3530
Strosmider 1 ..... * 3133
**Washington County—**
John Johnson & Co., Dunbar 1 ..¶0.42 2151

## West Central Texas

**Brown County (Wildcat)—**
Claude Campbell et al, Smith 1.. 5 947
**Brown County—**
Heltzel & Mendenhall, Edrington 9 8 1341
**Comanche County (Wildcat)—**
C. D. Lane et al, Eaves 1..... * 1002
**Comanche County—**
St. John & Choate, Boeicke 3 .... 24 632
Boeicke 4 ..... 26 630
**Callahan County—**
H. W. Lee et al, Harris 3 ..... 12 1222

# United States Well Completions—*Continued*

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| **Eastland County—** | | |
| D. Tomlinson, Jr. et al, Collins 1.. | 5 | 868 |
| **Jones County—** | | |
| Fain-McGaha Oil Corp., Burns 4.. | 78 | 1941 |
| Jones-Stasney-Groover-Rose, Humphrey 2-A | 53 | 1723 |
| King Oil Co., Seth 4 | * | 3311 |
| Pet. Producers Co., Gill 2 | * | 2310 |
| **Shackelford County (Wildcat)—** | | |
| U. L. Miller et al, Rodriquez 1.. | * | 665 |
| **Shackelford County—** | | |
| Barron Kidd et al, Clark 5 | 3 | 671 |
| Roeser-Pendleton-Continental, Cook 3-A-117 | 101 | 1699 |

## North Texas

| | | |
|---|---|---|
| **Archer County (Wildcats)—** | | |
| Fain-McGaha Oil Corp., Weinzapfel 1 | * | 1170 |
| Jack E. Kadane, Tr., Schlabs 1.. | * | 4128 |
| Ted A. Norwood et al, Mankins 1.. | * | 1830 |
| **Archer County (Mankins)—** | | |
| British-American O. P. Co., Albright 1 | * | 4849 |
| **Archer County (Hull-Silk)—** | | |
| King Oil Co.-Phillips Pet. Co., Wilson 10-E | 480 | 3835 |
| **Archer County (Griffin-Kadane)—** | | |
| Jack E. Kadane, Tr., Griffin 1-C.. | 408 | 4386 |
| **Archer County—** | | |
| Pet. Producers Co., King 11 | 85 | 1260 |
| King 12 | 170 | 1256 |
| S. H. Dr. Co., Mangold 3 | 12 | 650 |
| **Clay County (Wildcats)—** | | |
| Akin-Dimock-Costley, Huff 1 | * | 1241 |
| Seitz-Comegys-Seitz, Dunn 1 | * | 2391 |
| **Clay County (Shell-Coleman)—** | | |
| Shell, Anderson 1 | 10,224 | 6275 |
| **Clay County—** | | |
| F. H. Gohlke et al, Householder 1-B | * | 1780 |
| Gorman & Christie, Taylor 4 | 60 | 1135 |
| W. H. Metzner & H. B. Wallace, Dallas Jt. Ld. Bank 2 | 9 | 350 |
| Dallas Jt. Ld. Bank 3 | * | 371 |
| Dallas Jt. Ld. Bank 4 | * | 370 |
| Perkins & Cullum, Taylor 7-A | * | 1066 |
| Stayton Oil, McGregor 10 | 25 | 1202 |
| Texas Co., Hansard 7 | 9 | 1147 |
| **Cooke County—** | | |
| High Point Oil Co., Fette 5 | 14 | 1130 |
| Humble, Kleiss 3 | * | 1318 |
| Kingery Bros. Dr. Co., Trubenbach 6 | 84 | 1624 |
| Thos. E. Nix et al, Flusche 3 | 18 | 795 |
| Trumter Pet. Corp., Stacey 10-B .. | 15 | 788 |
| Texas Co., Piott 2 | 8 | 728 |
| **Jack County—** | | |
| G. M. Gillespie et al, Loving 4 .. | 197 | 3286 |
| **Montague County—** | | |
| J. M. Hawley et al, Bouldin-Crow 9 | 10 | 821 |
| **Throckmorton County—** | | |
| A. J. Bradford et al, McKeichan 2 | * | 801 |
| **Wichita County (South Electra Deep)—** | | |
| Magnolia, Burnett-Gladiolus 79 (otd 1926) (new play) | 860 | 3635 |
| **Wichita County (KMA Ellenberger)—** | | |
| Buffalo Oil, Ferguson 2-E | 1536 | 4314 |
| Consolidated Oil, Ferguson 29-E.. | 1068 | 4300 |
| Tide Water et al, Pettit 4-E | 1424 | 4254 |
| **Wichita County (K-M-A)—** | | |
| W. H. Hammon-Hanlon & Buchanan, Fassett-Tuttle 41 | 584 | 4050 |
| King Oil Co.-Perkins-Cullum-Birk 1 | 80 | 4065 |
| F. W. Merrick, Inc., Dorris 2 | 8 | 4133 |
| Mid-Union Dr. Co., Fassett-Tuttle 8 | 252 | 4062 |
| W. B. Omohundro et al, Hooks 14 | 360 | 3875 |
| **Wichita County—** | | |
| A. Fisher et al, Porter 1 | * | 1001 |
| W. H. Hammon et al, Johnson 1.. | 65 | 1314 |
| Johnson 2 | 50 | 1322 |
| John L. Swanner et al, Parker 19 | 8 | 764 |
| Underwood Oil Co., Stine 1 | 75 | 1310 |
| Stine 2 | 60 | 1316 |
| Stine 3 | 70 | 1388 |
| Stine 4 | 75 | 1316 |
| Fred B. Widmeyer et al, Powell 8 | 5 | 839 |
| **Wichita County (Wildcat)—** | | |
| Akin-Dimock-Costley, Dunn 1 | * | 1587 |
| Paul B. Scott et al, Horn 1 | * | 1840 |
| **Wilbarger County (Fargo)—** | | |
| Amerada Pet. Corp., Dodson 3 | 928 | 4065 |
| Humble, Anderson 2-B | 206 | 4606 |
| **Wilbarger County—** | | |
| Jas. B. Baker et al, Waggoner Est. 1-A | * | 2012 |
| **Young County—** | | |
| C. J. Bohner & Gilmore, Prideaux 10 | 4 | 429 |
| Burma Pet. Co., Dunagan 8 | * | 982 |
| L. T. Burns et al, Clark 1 | * | 950 |
| Panhandle Ref. Co.-Ben Rankin, King-Wooten 1 (pb 2766) | 160 | 4000 |
| Pemeta Oil Co., Tatum 27-B | 5 | 674 |
| Tatum 29-B-A | * | 675 |
| Shell, Bloodworth 1-A (pb 4913).. | 90 | 5100 |
| E. D. Willis et al, Stewart 13-B.. | * | 861 |
| **Young County (Wildcat)—** | | |
| Geo. Keith Jr. et al, Holley 1 .. | * | 550 |
| White & Duncan, Howard 1 | * | 895 |

## Texas Panhandle

| | | |
|---|---|---|
| **Gray County—** | | |
| Cities Service, Cunningham 14 .. | 64 | 3280 |
| King Oil Co., Durkin-Rice 9 | 172 | 3285 |
| Magnolia, Fee (tr No. 227) 45.... | 125 | 3045 |
| Skelly Oil, Schafer 126 | 107 | 3281 |
| Stanolind, Saunders 10 | 289 | 3124 |
| Saunders 11 | 96 | 3292 |
| W. H. Taylor Oil Co., Taylor 4-B | 65 | 2889 |
| **Hemphill County (Wildcat)—** | | |
| I. T. I. O. Co., Wiggins 1 | * | 4028 |
| **Hutchinson County—** | | |
| Paloma Oil Co., Lewis 10 | 127 | 2993 |
| Phillips Pet., Cockrell 73 | 193 | 3054 |
| Perkins 31 | 141 | 2896 |
| Shell, Harvey Sisters 23-B | 305 | 3077 |
| Harry Stekoll Oil Co., Whittenburg 6-L | 65 | 2873 |
| Stanolind, Terry 25 | 158 | 3009 |

## West Texas

| | | |
|---|---|---|
| **Andrews County (Wildcat)—** | | |
| Phillips Pet., University-Andrews 1 | * | 8368 |
| **Andrews County (Means)—** | | |
| Humble, Means 86 | 92 | 4534 |
| **Cochran County (Slaughter)—** | | |
| Atlantic Ref., Boyd-Humble 12.. | 942 | 5066 |
| Boyd-Humble 16 | 1176 | 5056 |
| Devonian Oil Co. et al, Duggan 4-C-7 | 403 | 5076 |
| Igoe-Smith 1-A | 883 | 5000 |
| Honolulu Oil Corp., Mallet 5-A-5.. | 844 | 5065 |
| Geo. P. Livermore, Boyd-Texaco 5. | 1244 | 5061 |
| Magnolia, Mallet 2-C | 1020 | 5034 |
| Mallet 6-J | 1323 | 5050 |
| Woodley 7 | 896 | 4988 |
| Milhoan Prod. Co., Duggan 2 | 822 | 4987 |
| **Crane County (Jordan)—** | | |
| Gulf, University 8-N | 11,668 | 3600 |
| **Crane County (Gulf-Waddell)—** | | |
| Gulf, Waddell 43 | 5400 | 3516 |
| **Crockett County (Todd Deep)—** | | |
| Amerada Pet. Corp. et al, Todd 1-A (pb 5722) | 6088 | 6400 |
| **Crockett County (World-Powell)—** | | |
| Armer & Armer, Powell 12-A | 146 | 2663 |
| **Ector County (Foster)—** | | |
| Atlantic Ref., Johnson 3-D | 640 | 4240 |
| Sinclair Prairie, Gist 4 | 461 | 4210 |
| Trinity Dr. Co., Henderson-Humble 9 | 1805 | 4310 |
| **Ector County (Harper)—** | | |
| Lee Dr. Co.-York-Harper, T. P. Land Trust 2 | 201 | 4165 |
| **Ector County (Jordan)—** | | |
| Parker Dr. Co., Pace 1 | 858 | 3695 |
| Snowden-McSweeney Co., University 8, lse 2 | 524 | 3635 |
| **Fisher County (McCaulley)—** | | |
| F. A. Stevenson et al, Maberry 1 . | 151 | 3335 |
| **Gaines County (Cedar Lake)—** | | |
| Stanolind, Rayner 4 | 800 | 4752 |
| **Gaines County (Seminole)—** | | |
| Amerada Pet. Corp., Coffey 5 | 634 | 5260 |
| Lamb 4 | 842 | 5330 |
| Humble, Matthews 7 | 508 | 5345 |
| Ohio Oil, Averitt 5 | 519 | 5259 |
| **Hockley County (Slaughter)—** | | |
| H. A. Hedberg et al, Slaughter 1. | 1018 | 4995 |
| Magnolia, Graham 2-B | 243 | 4961 |
| Sid W. Richardson, Slaughter 4-C. | 1461 | 4995 |
| Stanolind (was Awoeb-Harrison), Mid-Seale 5-A | 465 | 4999 |
| **Howard County—** | | |
| FHE Oil Co., Snyder 1-B | 183 | 2948 |
| **Mitchell County (Northwest)—** | | |
| N. V. Hilbun et al, Jackson 1 .. | 348 | 1750 |
| **Pecos County (Abell)—** | | |
| Magnolia, Markey 2 | 1393 | 5400 |
| **Pecos County (Conry-Davis)—** | | |
| Stanolind-Geo. Abell, Meyer-Logan 1 | 109 | 3825 |
| **Pecos County (Shearer)—** | | |
| Davis & White, Fromme 2 | * | 1940 |
| **Pecos County (Walker)—** | | |
| Cooper & McDermott, White-Baker 2-B | 56 | 2164 |
| **Upton County (McCamey)—** | | |
| Trebol Oil Co., Rodgers-Shell 4.. | 402 | 2695 |
| **Upton County (McClintic)—** | | |
| T. P. Coal & Oil Co., Eddleman 5.. | 415 | 3132 |
| **Ward County—** | | |
| Gulf, Hutchings 158 | 295 | 3100 |
| O'Brien 177 | 1286 | 2768 |
| O'Brien 178 | 403 | 2775 |
| Jamison & Pollard, Texas Cotton Ind. 2-B | 403 | 1909 |
| Magnolia, Sealy 9-41 | 97 | 2935 |
| **Val Verde County (Wildcat)—** | | |
| Miller Bros. et al, Davis 1 | * | 1115 |
| **Winkler County (Hendrick)—** | | |
| Bates-Reading Oil Corp., McCabe-Shell 8 | 280 | 3005 |

[*Continued on next page*]


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## WEST TEXAS—Continued

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| Stanolind-Westbrook-Thompson, Hendrick 2-G-T-88 | 299 | 3000 |
| **Winkler County (Keystone)—** | | |
| Ralph Lowe et al, Campbell-Texaco 7 | 233 | 3326 |
| Standard of Texas, Baird 14, sec 12 | 517 | 3377 |
| **Yoakum County (Wasson)—** | | |
| Aloco Oil Co., White-Texaco 7 | 638 | 5206 |
| Argo Oil Corp., Comer 4-B | 1504 | 5170 |
| Denver P&R Co., Whittenburg 16-A | 1601 | 5174 |
| Helmerich & Payne, Dowell 2-B | 313 | 5057 |
| Mabee O&G Co., Abilene Christian 2 | 326 | 5255 |
| **Yoakum County (Waples-Platter)—** | | |
| Sam G. Dunn-H. L. Cain, More 1 | * | 5502 |
| **WATER DISPOSAL WELL** | | |
| **Pecos County (Abell)—** | | |
| Magnolia, McKee 2 | * | 421 |

## East Texas

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| **Joiner Area—** | | |
| Elm Oil Co., Eaton 6-A | 750 | 3764 |
| Zephyr Oil Co., Glover 8-B | 1200 | 3650 |
| **Kilgore Area—** | | |
| Magnolia, Griffin 27 | 450 | 3610 |
| Ed Pace et al, Elder 13 | 950 | 3575 |
| J. Simmons et al, Laird 3 | 950 | 3554 |
| **Longview Area—** | | |
| T. W. Lee et al, Castleberry-Humble 1 | † | 3417 |
| J. D. Reynolds et al, Miller 9 | * | 3824 |
| Stanolind-Tide Water, Fonville 15 | 2400 | 3527 |
| **Anderson County (Long Lake)—** | | |
| Tide Water-Seaboard, Shaw-Cern 17 | ¶115.0 | 5342 |
| **Freestone County (Wortham)—** | | |
| Barney Carter et al, Simmons 2 | 41 | 3051 |
| **Smith County (Chapel Hill)—** | | |
| Sun Oil, Shofner 1 | ¶6.6 & 343 | 8285 |
| **Wood County (Hawkins)—** | | |
| Humble, Snider 1 (31/100-ac) | 452 | 4826 |
| Roger Lacey et al, Marberry 1 (3.77-ac) | 369 | 4734 |
| **OLD WELL DEEPENED** | | |
| **Rusk County (Wildcat)—** | | |
| R. S. Kirby et al (was Jeff Bolton) Wood 1 (otd 4201) | * | 4418 |

## Southwest Texas

### SAN ANTONIO DISTRICT

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| **Bastrop County (Red Rock)—** | | |
| Wiegand, Carroll 2, outpost | 22 | 2480 |
| **Bastrop County (Wildcat)—** | | |
| Furlong & Thompson, Lentz 1, new field | 497 | 2453 |
| **Bexar County (Gas Ridge)—** | | |
| H. J. Bussa, Barker 20-B | 2 | 435 |
| **Bexar County (N. Somerset)—** | | |
| H. Mussey, Miller 1 | 7 | 1380 |
| **Bexar County (Wildcat)—** | | |
| Jack Tarver, Uecher 2 | * | 1007 |
| **Caldwell County (Bee Creek)—** | | |
| R. R. Ogden, Talley 13 | 268 | 2225 |
| **Caldwell County (Salt Flats)—** | | |
| Elimag Oil Corp., Dickerson 6 | * | 2713 |
| **Caldwell County (Tenney Creek)—** | | |
| Elimag Oil Corp., Perry 2 | 45 | 2583 |
| **Dimmitt County (Wildcat)—** | | |
| R. R. Mogford, Barnard 1 | * | 939 |
| **Frio County (Wildcat)—** | | |
| M. Lipton, McKinley 1 | * | 1135 |
| **Guadalupe County (Darst Creek)—** | | |
| Trio Oil Co., Bibbs 2 | * | 1381 |
| **Bee County (Tanglewood)—** | | |
| Shell, Brown 2, outpost | * | 5946 |
| **Medina County (Chicon Lake)—** | | |
| V. T. Fearis, Medina 8 | 3 | 439 |
| C. H. Wagener, Medina 56-A | * | 480 |
| **Val Verde County (Vinnegarone)—** | | |
| Donzis & Shefts, Whitehead & & Wardlow 1 | 5 | 308 |

### CORPUS CHRISTI DISTRICT

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| **Brooks County (Kelsey)—** | | |
| Magnolia, State Marshall 11 | 525 | 4744 |
| **Brooks County (Alta Mesa)—** | | |
| Standard of Texas, Garcia 7 | 150 | 2671 |
| **Calhoun County (Duck Bay)—** | | |
| Coronado Corp., Welder 10 | * | 5850 |
| **Jackson County (Lolita)—** | | |
| Luling O. & G. Johnson 4 | 250 | 6410 |
| **Jackson County (West Ranch)—** | | |
| Magnolia, West 168-A | 750 | 5746 |
| West 176-A | 850 | 6165 |
| **Jim Wells County (E. Premont)—** | | |
| Sun, Canales 1, extends field, new sand | 375 | 5210 |
| **Jim Wells County (Wade City)—** | | |
| W. R. Quin, Brand 1 | 150 | 4782 |
| **Karnes County (Wildcat)—** | | |
| R. E. Fair, Hancock Insurance Co. 1 | * | 2810 |
| **Live Oak County (Oakville)—** | | |
| Coquat et al, Reagan 1 | * | 8005 |
| **Nueces County (Agua Dulce)—** | | |
| Richardson, Harlan 1 | 500 | 7070 |
| **Nueces County (Stratton)—** | | |
| Corpus Christi, Wardner 15 | 500 | 6615 |
| **Nueces County (Turkey Creek)—** | | |
| Renwar, McKenzie 22 | * | 5622 |
| **Refugio County (McFaddin)—** | | |
| Barnsdall, Marberry 9 | 350 | 5636 |
| Simmons et al, Fagan 4 | 350 | 5665 |
| **San Patricio County (Midway)—** | | |
| Phillips, Schmidt 5 | 108 | 5395 |
| **Victoria County (E. Placedo)—** | | |
| Stanolind, Vanderberge & Hill 12 | ¶5.0 & 24 | 6910 |
| **Victoria County (Victoria)—** | | |
| C. H. Bailey, Jewett 1 | * | 3065 |
| **LAREDO DISTRICT** | | |
| **Duval County (Casa Blanca)—** | | |
| Texas, Duval 46 | 19 | 1034 |
| **Duval County (Driscoll)—** | | |
| Continental 1, Driscoll 68-A | 500 | 3370 |
| **Duval County (Government Wells)—** | | |
| Tri-S Oil Co., Lundell 18 | 80 | 2986 |
| **Duval County (Hoffman)—** | | |
| Cuellar Bros., Fee 4 | * | 3217 |
| **Duval County (Southland)—** | | |
| Hiawatha, Southland 5-A | * | 5405 |
| **Jim Hogg County (Colorado)—** | | |
| Humble, King-Colorado 23-B | 220 | 3037 |
| **LaSalle County (Wildcat)—** | | |
| Trinity Pet. Co., Storey & Kenley 1 | * | 5512 |
| **McMullen County (Wildcat)—** | | |
| Argo Oil Corp., Edrington 1-I, new field | 157 | 3023 |
| **Starr County (Rincon)—** | | |
| Continental, Slick 37-A | 550 | 4260 |
| Slick 48-A | * | 4310 |
| Slick 58-B | 450 | 4284 |
| Slick 70-B | 500 | 4240 |
| Slick 100-B | * | 4193 |
| **Starr County (Samfordyce)—** | | |
| H. J. Porter, Saenz 2 | 150 | 4145 |
| **Starr County (Sun)—** | | |
| Humble, Montalvo 7 | * | 5319 |
| Sun, Montalvo 10-A | 600 | 4869 |
| **Webb County (Adami)—** | | |
| Mills Bennett, Adami 1 | * | 978 |
| **Zapata County (Escobas)—** | | |
| Dulup Oil Co., Garcia 4-A | * | 1050 |

## Texas Gulf Coast

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| **Brazoria County (Wildcat)—** | | |
| Glenn McCarthy, Marmion 1 | * 11,475 | |
| **Brazoria County (Chenango)—** | | |
| Stanolind, Brundrett 1 | * 10,500 | |
| **Chambers County (Anahuac)—** | | |
| Humble, Johnson 37 | * | 7148 |
| Navarro, Porter 3 | 629 | 7130 |
| **Chambers County (Barbers Hill)—** | | |
| Sun, Smith 3 (retest) | 14 | 5350 |
| **Colorado County (West Garwood)—** | | |
| W. R. Davis, Brownson A-2 | 238 | 6144 |
| **Galveston County (Caplen)—** | | |
| Sun, State 2-27 | 232 | 6275 |
| **Galveston County (Dickinson)—** | | |
| Pure, Sealy-Hutchins A-3 | 75 | 8105 |
| **Hardin County (Batson)—** | | |
| Ada Belle O. Co., Lovett & Davis 299 | * | 745 |
| **Hardin County (New Batson)—** | | |
| Seaport, Jordan 1 | 227 | 5560 |
| **Harris County (Dyersdale)—** | | |
| Jack Frazier, Williams 1 | 200 | 4079 |
| **Harris County (Goose Creek)—** | | |
| Grace Oil Co., Wright D-1 | 53 | 2514 |
| **Jefferson County (Fannett)—** | | |
| Gulf, Bordages 11 | 188 | 8379 |
| **Jefferson County (Lovell Lake)—** | | |
| Shell, Pleasant 1 | 3 | 7809 |
| **Jefferson County (West Beaumont)—** | | |
| Stanolind, Treadaway 2 | 110 | 5392 |
| **Lee County—** | | |
| Shell, Brown 2 | * | 5900 |
| **Liberty County—** | | |
| Hebert & Smith & Rowan, Willis 1 | * | 8525 |
| **Liberty County (Hull)—** | | |
| Republic & Houston Dolbear 170 | 205 | 2620 |
| **Matagorda County (Bay City)—** | | |
| Skelly, Cobb B-23 | 138 | 7495 |
| **Matagorda County (Orange)—** | | |
| Continental, Chesson 18 | 58 | 5530 |
| **Tyler County—** | | |
| Rockland Oil Co., Kountze 2 | * | 1478 |
| **Wharton County (Hillje)—** | | |
| Texas Co., Orsak 2 | 72 | 5240 |

## Wyoming

| Company, Well and Location | Init. Prod. Bbls. | Depth |
|---|---|---|
| **Niobrara County (Lance Creek)—** | | |
| Continental, Bell 25, se se se 28-36n-65w | 1800 | 5379 |
| **Park County (Oregon Basin)—** | | |
| Enalpac O. & G., McMahon 2-OPC, sw sw 32-51n-100w | 400 | 3553 |
| Texas Co., Sonners 5, ne se ne 30-51n-100w | 120 | 3460 |
| **OLD WELLS DEEPENED** | | |
| **Niobrara County (Lance Creek)—** | | |
| Continental, Rodeo 3, OPC-4, ne ne 35-36n-65w (otd 4315) (gas input) | .. | 4360 |


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**By FREDERICK H. LAHEE**

Chief Geologist of the Sun Oil Company,
Formerly Assistant Professor of Geology, Massachusetts Institute of Technology

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# WILDCAT REPORT
## New Starts and Completions

### ARKANSAS
**FIRST REPORT**

**Ouachita County**—Theodore Davis, Fort Smtih 1, c nw sw 16-12-17, mat.

### CALIFORNIA
**FIRST REPORTS**

**Fresno County**—Richfield's Stone-Bragg 1; sec 33-13-12, lcn, Panoche Creek area.

**Kern County**—Texas Co.'s G. & L. 77-1, sec 1-24-26, grading, Richgrove area. Hancock Oil Co.'s Watts 1, sec 8-30-28, lcn, Union Avenue area.

**Los Angeles County** — Barnsdall-Bandini Pet. Co.-Ambassador Pet. Co.'s Limbocker 1, sec 17-3-16, lcn, Newhall area.

**Madera County**—Shell's Chowchilla Farms 74-9, sec 9-11-14, grading, Chowchilla area.

**San Joaquin County**—Standard's Mabry 2, sec 31-2-5, rig, McDonald Island area.

**COMPLETIONS**

**Kern County** — Richfied's Tejon 2, sec 19-11-18, td 4966 ft in Schist, Basalt approx 3625 ft, base basalt 4560 ft, Schist 4943 ft, abnd, Grapevine area. Bankline Oil Co.'s No. 57-23, sec 23-11-23, td 1104 ft, brown shale 885 ft, Fault zone 890-961 ft, re-entered Etchegoin 961 ft, second brown shale 1072 ft, abnd, Maricopa area.

**Los Angeles County**—Wilshire Annex Oil Co.'s Comm. 1, sec 14-3-11, td 9034 ft, pb 974 ft, abnd, West Coyote area. Royalty Service Corp.'s Marlow-Burns 1, se Moynier Lane and L. A. City boundary, td 8787 ft, Miocene approx 8760 ft, wet, abnd, Inglewood area.

### ILLINOIS
**FIRST REPORTS**

**Bond County**—Republic Oil's Mitchell 1, sw sw se 28-6n-3w, lcn.

**Fayette County**—Smokey Oil's Boye 1, sw sw nw 23-5n-2e, dr.

**Franklin County**—Smokey Oil's Moore 1, ne sw sw 14-6s-2e, dr.

**Hamilton County**—Kingwood et al's Johnson 1, ne se ne 14-6s-5e, lcn.

**Jasper County**—J. P. Gordon's Snyder 1, c w½ se nw 36-7n-14e

**Jefferson County**—Kingwood Oil's Sledge 1, c n½ se sw 20-1s-4e, lcn.

**Gallatin County**—J. H. Wall et al's Mossman 1, w½ sw 7-9s-8e, dr.

**Marion County**—Goodson et al's Smith 1, ne nw ne sw 25-4n-1e, dr.

**Perry County**—Ruwaldt et al's Fulk 1, c ne ne sw 15-4s-4w, dr.

**Richland County**—Texas Co.'s Shan 1, s½ n½ 27-3n-9e, lcn.

**Wayne County**—Albright et al's Collins 1, nw nw se 24-1s-9e, dr.

**White County**—Wall & Mitchell's Kershaw 1, sw sw ne 22-3s-10e, dr. C. D. Neff's Union Cen. Life Ins. 1, ne ne se 9-7s-10e, lcn.

**COMPLETIONS**

**Champaign County**—J. T. Morse's Sheldon 1, abnd 1500 ft.

**Clinton County**—Wiser Oil's Gullick 1, se se ne 28-2n-1w, abnd 1577 ft.

**Franklin County**—Bay Oil's Johnston 1, se sw se 17-6s-3e, abnd 2222 ft.

**Hamilton County**—Mid-Sun Oil Corp.'s Hall 1, se nw sw 19-4s-5e, abnd 3521 ft. Ruwaldt's Schuette 1, ne ne sw 35-5s-5w, abnd 1175 ft. Texas' Shasteen 1, c e½ se sw 27-6s-6e, Aux Vases 3069-3077 ft, Bethel 2959-2969 ft, pb 3080 ft, 161 bbls.

**Randolph County**—S. E. Whitton et al's Inselman 1, se se ne 5-7s-5w, abnd 1010 ft.

**Wabash County**—Hayes' Zimmerman 1, nw nw se 36-1n-13w, Bethel pay 2355-68 ft, pb 2368 ft, 10 bbls oil, 30 bbls water.

**Wayne County**—New Penn Dev.'s Bothwell 1, e½ sw nw se 18-2s-9e, abnd 3507 ft. Smokey Oil's Chalcraft 1, c w½ ne nw 19-2s-10e, abnd 3425 ft. Texas' Lewis 1, c s½ ne sw 5-3s-6e, abnd 3570 ft.

### INDIANA
**FIRST REPORTS**

**Posey County**—Yokey et al's Wiley 1, sw sw ne 1-6s-14w, lcn. Joe Bander's Allyn 1, se sw se ne 24-6s-13w, dr. R. B. Martin's Keck 1, se se ne 23-8s-15w, lcn.

**COMPLETION**

**Gibson County**—Gulf's Conrad 1, se ne nw 10-3s-9w, abnd 1607 ft.

### KANSAS
**FIRST REPORTS**

**Barton County**—W. O. Allen's Stoskopf 1, nwc 29-16-13w, dr. Pryor & Lockhart et al's Bergner 1, nec 35-29-14w, mim.

**Edwards County**—Continental's Beatty 1, sw 35-25-20w, dr.

**McPherson County**—Kiowa Drg Co. et al's Reusser 1, c s½ se se 26-21-2w, dr.

**COMPLETIONS**

**Phillips County**—Lario O. & G. Co.'s Bard "B" 1, c s½ se nw 27-3-20w, 12 mi n Ray pool, Anhydrite 1845 ft, Topeka 3255 ft, Lansing 3480 ft, Arbuckle 3761 ft, abnd 3802 ft. Aladdin Pet. Co. et al's Wiltrout 1, c s½ se ne 18-5-20w, 3 mi nw Ray pool, Lansing 3239 ft, so 3242-46 ft, Conglomerate 3502 ft, Arbuckle 3520 ft, abnd 3560 ft.

**Russell County**—Falcon-Seaboard Oil Co.'s Stevens 1, c e½ sw sw 3-13-14w, 2½ mi n Russell pool, Topeka 2492 ft, Lansing 2795 ft, Conglomerate 3080 ft, Arbuckle 3100 ft, abnd 3145 ft.

### KENTUCKY
**FIRST REPORT**

**Ohio County**—Steele & Miller's Carson 1, sec 17-M-31, dr.

**COMPLETIONS**

**Breckenridge County**—Rex Pyramid's Summers 1, sec 6-N-37, abnd 1600 ft.

**McLean County**—Sam Malis' Barthimus 1, sec 25-M-29, Jones sand 1347-65 ft, 35 bbls.

### NORTH LOUISIANA
**FIRST REPORTS**

**Catahoula Parish**—H. L. Hunt, Louisiana Central Lbr. Co. A-2, c nw se 9-9n-6e, rig.

**Grant Parish**—H. L. Hunt, Buchanan F-1, c nw nw 12-8n-2w, rig.

### MICHIGAN
**FIRST REPORTS**

**Allegan County**—Charles Stark's Thomas 1, nw nw nw 29-1n-15w, rig.

**Clare County**—Union Dr. & Prod. Co.'s Newland 1, se se nw 19-20n-4w, lcn.

**Isabella County**—Rowmor & Burk White's Swan 1, c e½ ne ne 4-15n-3w, lcn.

**Kalamazoo County**—Fisher-McCall Oil Co.'s Borner 1, sw nw sw 3-2s-12w, dr.

**Lake County**—W. P. Shoemaker's Smith 1, se nw se 17-19n-14w, dr.

**Otsego County**—Bar-Bor O. & G. Co.'s Zembicki 1, c sw 25-30n-3w, dr.

**Van Buren County**—Lang & Lewis' Peterson 1, ne sw se 26-1s-17w, dr.

**COMPLETIONS**

**Allegan County**—W. L. McClanahan's Mortenson 1, sw sw sw 36-1n-14w, Traverse 1269 ft, abnd 1271 ft.

**Kent County**—A. S. Cochran's Oudermeoulen 1, sw sw se 3-5n-12w, Traverse 1786 ft, abnd 1846 ft.

**Midland County**—Dougherty & Markey's Johndrew 1, sw nw sw 16-15n-2w, Dundee 3659 ft, abnd 3766 ft.

**Ottawa County** — Southwest Dev. Co.'s Miller 1, nw ne sw 26-5n-13w, Traverse 1835 ft, abnd 1860 ft.

### MISSISSIPPI
**FIRST REPORTS**

**Madison County**—Sinclair-Wyoming's Harris 1, nw 26-10n-5e, mat.

**Monroe County**—Carter Oil's Sanders 1, c sw sw 22-15s-6e, dr 2000 ft.

### MONTANA
**FIRST REPORT**

**Carter County**—Pete Dickerson's Government 1, se sw 8-9s-61e, cleaning out 600 ft.

### NEW MEXICO
**FIRST REPORT**

**Eddy County**—Neil H. Wills et al's Zorichak 1, c sw ne 6-20s-31e, mim.

**COMPLETIONS**

**Chaves County**—R. I. Wilson et al's Brown 1, c nw sw 29-11s-23e, abnd 2000 ft.

**Lea County**—H. W. Leonard-Van Welch's State 1, c nw nw 18-20s-33e, elev 3523 ft, anhydrite 1102 ft, salt series 1135-2595 ft, Yates sand 2799 ft, lime pay 3098-3103 ft, 250 bbls 26-gr, new pool.

### OKLAHOMA
**FIRST REPORTS**

**Atoka County**—S. J. Campbell et al's Rich 1-A, c se sw 2-1n-12e, lcn.

**Creek County**—Chas. Balph et al's Starr 1, se se sw 7-16n-8e, dr.

**Garvin County**—Ramsey Pet. Corp. et al's McCrummen 1, c e½ se nw 24-4n-1w, dr.

**Jackson County**—Rinehart & Donovan's Petzold 1, sec ne 20-3n-20w, dr.

**Lincoln County**—Dunnett Oil Co. et al's Dollison 1, nw se nw 33-15n-5e, dr.

**Logan County**—Roy P. Deihl et al's Lesh 1, nec 19-16n-1w, dr.

**Okmulgee County**—Oklahoma Oil Corp. et al's Colbert 1, sec 26-11n-13e, lcn.

**Okfuskee County**—Wilcox et al's Moseley-Nevins 1, sec nw 4-13n-7e, dr.

**Seminole County**—Moday Drg Co.'s Whitney 1, nec se 30-7n-7e, dr. Stanolind-Amerada et al's Buck 1, nw se nw 11-10n-7e, dr.

**COMPLETIONS**

**Logan County**—Continental et al's Leninger 1, sw se sw 17-15n-3w, new pool. Pawhuska 2815 ft, Lower Pawhuska 3060 ft, Tonkawa 4030-60 ft, Avant 4430 ft, Hogshooter 5048 ft, Checkerboard 5230 ft, Oswego 5628 ft, base Penn and top Chatt 5895 ft, Hunton 5905 ft, Sylvan 5970 ft, Viola 6080 ft, Dolomite 6120 ft, First Wilcox 6219 ft, Marshall zone 6252 ft, Second Wilcox 6392 ft, td 6501 ft, pb 6255 ft, pay 6220-50 ft, 192 bbls, 37-gr, 6.0 million ft gas, 2200 lbs shut-in-pressure.

**Okfuskee County**—Texas' McKernan 1, c n½ nw sw 15-12n-9e, North Castle ext, Oswego zone 1610 ft, Prue 1670 ft, Henryetta Coal 1970 ft, Senora ls 2030 ft, Brown li 2780 ft, Booch 2880 ft, Gilcrease 3150 ft, Wapanucka-Cromwell zone 3283 ft, td 3304 ft, 90 bbls, 37-gr.

**Osage County**—Keener O. & G. Co.'s Osage 1-A, swc 20-22n-9e, 1½ mi sw East Hominy pool, sd 175-205 ft, li 275-325 ft, sdy li 350-60 ft, sd 435-595 ft, brkn sd 630-705 ft, li 935-58 ft, sd 985-1010 ft, li 1010-15 ft, sd 1015-25 ft, li 1150-58 ft, Layton 1182-1215 ft, slate 1215-75 ft, abnd 1275 ft.

### SOUTHWEST TEXAS
**FIRST REPORTS**

**Bexar County**—C. J. LeCompte's Ripps 1, J. M. Urriegas gr, 7 mi s San Antonio, lcn 1300-ft test.

**Duval County**—H. H. Howell's Parr 1, sw ne sur 113, 6 mi nw San Diego, ru 5000-ft test.

**Jackson County**—Rowan & Hope's Milby 1, J. Williams sur, 4 mi ne Edna, prep mi 7000-ft test.

**LaSalle County**—E. J. McCurdy's Cartwright 1, sur 236, 14 mi ne Artesia, ru 6000-ft Wilcox test.

**Val Verde County**—Parsons, Cleveland & [*Continued on next page*]

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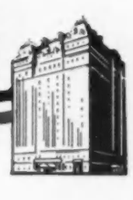

## SOUTHWEST TEXAS—Continued

Cook's Ingram 1, sec 44, blk 111, 43 mi nw Comstock, mi 4500 ft test.

**Webb County**—Magnolia's Santo Tomas 1, Antonio Gonzales gr, 17 mi w Webb townsite, dk 5500-ft test. Lee Upton's Garcia & Villareal 1, sur 1101, 1½ mi w Oilton, lcn 3000-ft test.

**Williamson County**—H. C. Lefors et al's Kutzschbach et al 2, P. J. Mahon sur, 4 mi e Taylor, lcn 1500-ft test.

**COMPLETIONS**

**Bastrop County**—Furlong & Thompson's Lentz 1, Lentz sur, 3 mi nw Red Rock, 248.43 bbls 12 hrs ¼-in ch, tp 110 lbs, cp 250 lbs, 36.8-gr, acid 2000 gals, td 2453 ft, pb 2244 ft, prod from Dale lime 2226-44 ft, new fld.

**Frio County**—Meyer Lipton's McKinley 1, BS&F Sur 5, at Melon townsite, temp abnd 1135 ft.

**Jim Wells County**—Sun Canales 1, sur 182, 5100 ft w E. Fremont fld, 173.43 bbls ¼-in ch, tp 220 lbs, cp 1175 lbs, 39.9-gr, gor 300/1, td 5210 ft, perf 5202-07 ft, 20 shots, sand 5198 ft, new sand and extension.

**Karnes County**—R. E. Fair's Hancock Ins. Co. 1, Evans sur, 12 mi ne Helena, abnd 2810 ft.

**LaSalle County**—Trinity Pet. Co.'s Storey & Kenely 1, sur 141, 8 mi s Los Angeles, abnd 5512 ft in Wilcox.

**Lee County**—Shell's Brown 2, Finney sur, Tanglewood pros, abnd 5946 ft in Edwards lime.

**Live Oak County**—H. Coquat's Reagan 1, Romero sur, at Oakville, abnd 8005 ft in Wilcox.

**McMullen County**—Argo Oil Corp.'s Edrington 1-I, sur 61, 2 mi sw Campana fld, 157 bbls, 1¼-in ch, 740 lbs csg pres, 22.8-gr, gor low, Pettus sand 3012-23 ft, new fld.

## WEST TEXAS

**FIRST REPORTS**

**Crockett County**—Amerada Pet. Corp. et al's Todd Est. 1-C, c sw sw GC&SF sec 15, blk 10, lcn Ordovician test. Moore Explo. Co.-Olson Oil Co.'s Halff Est. 1, I&GN sec 54, blk 1, lcn 2000-ft test.

**Lynn County**—Trinity Dr. Co.-Dan Auld's Auld 1, c ne sw sec O, T. Callison sur, mim.

**COMPLETIONS**

**Andrews County**—Phillips Pet.'s University-Andrews 1, c nw ne sec 32, blk 10, elev 3228 ft, anhydrite 1430 ft, Yates 2590 ft, brown lime 3590 ft, San Andres 3995 ft, basal Permian 7775-7940 ft, Simpson 7940 ft, Ellenberger 8364 ft, abnd 8368 ft.

**Val Verde County**—W. A. Miller et al's Davis 1, nec sec 4, S. F. No. 10756, abnd 1115 ft.

## EAST TEXAS

**FIRST REPORTS**

**Shelby County**—Grady Vaughn, Frost 1, John Buckley sur, mat. A. E. McKiernan, Pickering 1, G. H. Patterson sur, mat.

**Van Zandt County**—J. Harry Reynolds et al's Bush 1, swc of 20-ac lse, Pleasant Young sur, mim.

**COMPLETION**

**Houston County** — Lone Star Gaso.-Co. Trinity Gas Corp.'s Bolton-Humble 1, se part n½ 324-ac tr, G. W. Wilson sur, elev 284 ft, Pecan chalk 4529-4962 ft, Austin chalk 5417-5702 ft, Woodbine sand 5728 ft, abnd 5811 ft.

## NORTH TEXAS

**FIRST REPORTS**

**Archer County**—Ted A. Norwood et al's Wright 1, nwc TE&L sec 2435, sp. Young & Woody Dr. Co.'s Abercrombie 1, nw ne blk 57, Harris subd, lcn.

**Jack County**—Magnolia's Borden 1, 1591-ac tr, W. K. Smith sur, 6500-ft test, mim.

**Montague County**—Gibson & Jennings, Inc.'s Howard 4, nw ne sec 90, Kaufman CSL, lcn.

**Wichita County** — Akin-Dimock-Costley's Jackson 1, J. Walker sur A-327, lcn.

**Young County**—J. G. Wooten et al's Wolf 1, sec TE&L sec 283, lcn.

**COMPLETIONS**

**Archer County**—Fain-McGaha Oil Corp.'s Weinzapfel 1, sw nw lot 22, blk 24, Clark-Plumb sur, abnd 1170 ft. Jack E. Kadane, tr's Schlabs 1, nwc lot 48, blk 3, Clark-Plumb sur, abnd 4136 ft. Ted A. Norwood et al's Mankins 1, near c se ne S. P. Ry. sec 2, A-944, abnd 1830 ft.

**Clay County**—Akin-Dimock-Costley's Huff 1, nec of J. Bradshaw sur A-17, abnd 1241 ft.

**Wichita County** — Magnolia's Burnett-Gladiolus 79, sw se sw HT&B sec 6, A-428, 1st Ellenberger production South Electra field, Ellenberger dolomite 3627-35 ft, 6000 gals acid, flowed 107½ bbls 3 hrs ¾-in ch. Akin-Dimock-Costley's Dunn 1, W. H. Anderson sur, A-1, abnd 1587 ft. Paul B. Scott et al's Horn 1, nec sw¼ n 160-ac of s 200-ac of Anderson-M. Gilbert surs, abnd 1840 ft.

**Young County**—Geo. Keith, Jr. et al's Holley 1, J. W. Paddock sur, A-1625, abnd 550 ft. White & Duncan's Howard 1, se ne ne TE&L sec 1461, abnd 895 ft.

## TEXAS GULF COAST

**FIRST REPORTS**

**Harris County**—J. W. Frazier's McDannald 1, 1 mi n of Dyersdale field in sw cor 385-ac lease, lot 10, in Ferdinand Bell survey, waiting on rig.

**Madison County**—Leon Dunn's Roy Jackson 1, 6 mi sw Madisonville in Arter Crownover sur, dr 780 ft.

**COMPLETIONS**

**Brazoria County**—Glenn McCarthy's Marmion 1, Bailey's Prairie Area, Samuel Carter sur, abnd 11,475 ft.

**Lee County**—Shell's Brown 2, Robert Finney sur, abnd 5900 ft.

**Liberty County**—Rowan Dr. Co., Hebert & Smith's Willis 1, 3½ mi se of Felicia, HT&B sec 7, abnd 8525 ft.

**Tyler County**—Rockland Oil Co.'s Kountze 1, 1 mi ne of Rockland in E. Smith sur, abnd 1478 ft.

## WEST CENTRAL TEXAS

**FIRST REPORTS**

**Callahan County**—O. L. Wylie et al's Taylor 1, ne nw se B.O.A. sec 67, lcn.

**Coleman County**—J. D. Kynaston et al's Seale 1, J. H. Brown sur 254, mim. P. H. Lewellyn et al's McLain 1, A. Cherry sur 332, lcn.

**Comanche County**—C. D. Lane et al's Auvenshire 1, sec sw ne E. T. Ry. sec 45, lcn.

**Eastland County**—Stewart Oil Co.'s Shaeffer 1, 394-ac tr, Moses Allen sur 26, lcn, 3500-ft test.

**COMPLETIONS**

**Brown County**—Claude Campbell et al's Smith 1, sec 1, Waco Mfgr. Co. sur, new pool, 1000 gals acid 931-37 ft, pumped 5 bbls.

**Comanche County**—C. D. Lane et al's Eaves 1, c e½ ne sw E. T. Ry. sec 45, abnd 1002 ft.

**Shackelford County**—U. L. Miller et al's Rodriquez 1, near c ne¼ E. T. Ry. sec 12, abnd 665 ft.

## WYOMING

**FIRST REPORT**

**Laramie County**—Indian Hill Oil Co.'s Kirkbride 1, c ne nw 14-18n-66w, shut dn 1200 ft.

**COMPLETION**

**Laramie County**—Indian Hill Oil Co.'s Harding Ranch 1, c nw nw 17-18n-65w, abnd 2540 ft.

## *Runs to Stills Up Sharply in May*

Daily average runs to stills in May were 3,853,000 barrels, an increase of 149,000 barrels over the preceding month and 246,000 barrels over May, 1940, it was reported July 16 by the United States Bureau of Mines.

Daily average crude imports were 125,000 barrels, 3000 barrels under the April figure.

The bureau announced that total receipts at refineries for the month were 118,868,000 barrels, of which 115,002,000 barrels was domestic and 3,866,000 barrels foreign oil.

Crude runs to stills were 119,435,000 barrels, and fuel and losses 300,000 barrels, resulting in a reduction of 867,000 barrels in refinery stocks, from 50,813,000 to 49,946,000 barrels.


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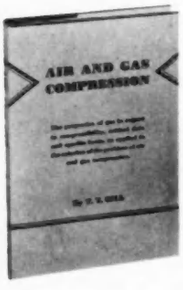
**AIR AND GAS COMPRESSION**




**By**

**Thomas T. Gill**
**Union Oil Company of California**

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CONTENTS: Definitions and Fundamental Units. Barometric Pressure and Altitude Above Sea Level. Fundamental Gas Laws. Energy Relations—Single-Stage Compression. Compressor Capacity. Volumetric Efficiency and Clearance. Indicated Horsepower. Two-Stage Compression. Multistage Compression. Exponent of Compression. Volumetric Efficiency and Compressor Brake Horsepower. Compressor Problems. Supercompressibility or Deviation from the Ideal Gas Laws. Compressors. Compressor Plant. Gas Lift and Pressure Maintenance. Flow of Gas in Pipe Lines. Gas Measurement by Orifice Meter. Use of Alignment Charts. Appendix. Index.

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# MEN IN THE INDUSTRY'S NEWS

**CLINTON OWSLEY** has been named director of production for the Oil and Gas Division of the Texas Railroad Commission, succeeding Dr. F. V. L. Patten, who was advanced to chief supervisor of oil and gas earlier this year. Owsley has been with the commission since 1932, and has been continuously engaged in the oil and gas department. He was first traveling auditor for the Gas Utilities Division. In 1935, when the commission instituted the tender system and a plan to account for production and disposal of all oil, Owsley was named chief petroleum accountant, and the system set up under his supervision. From June, 1937, until October, 1939, he was chief accountant for the Gas Utilities Division, and then named director of the division, which post he held until last week.

**CARLETON REYNELL** has been named general manager of purchases and traffic for Worthington Pump & Machinery Corporation, Harrison, New Jersey. Frederic W. Thomas has been named assistant general manager of purchases, and Dean K. Chadbourne assistant general manager of traffic.

**LESLIE T. BARBER,** Edmore, Michigan; John Borden, Chicago, and Burks White, Mt. Pleasant, Michigan, have organized Bar Bor Oil & Gas Company. The company has acquired 22,000 acres of leases in Otsego County, Michigan, and is starting exploration for Antrim shale gas at 1500 feet.

**HOWARD T. WALSH,** vice president and director of Sullivan Machinery Company, Michigan City, Indiana, has retired after 41 years service with the company. He has served successively as an apprentice, salesman, Pacific Coast manager, London manager, and general sales manager.

**SERVERO G. CARCERES CANO,** chief of drilling department of Y.P.F. at Mendoza, was a Houston visitor last week.

**J. M. BOWLBY,** who has been engaged in problems of industrial management for the past eight years and a partner in the firm of Barrow, Wade, Guthrie & Company, accountants and auditors, since 1928, has been named president of The Eagle-Picher Lead Company, Cincinnati. He succeeds Joseph Hummel, Jr., who has been named board chairman.

Bowlby started with Railway Steel-Spring Company, now a division of American Locomotive Company, and since acquired a wide experience in commercial and investment banking fields. He served in the military forces during World War I, and after the war was drafted by the director of sales of the War Department and, as chief of the machine tool section, negotiated sale of surplus equipment to France, Belgium, Poland and other countries. Hummel joined the company in 1891, and since has served as secretary, treasurer, and president.

**W. R. COLEMAN,** secretary-treasurer Engineering Laboratories, Inc., Tulsa, has assumed duties of sales manager, succeeding John C. Carroll, who joined Douglas Aircraft Company. Coleman has been connected with the company since its organization in 1935.

**THOMAS F. TROXELL,** partner in the New York investment banking firm of Riter & Company of New York, has been named treasurer and a director of Copperweld Steel Company. Sidney D. Williams, vice president in charge of steel sales, has been named executive vice president in charge of the Warren (Ohio) division, and William B. Klee, Jr., assistant secretary, has been named assistant to the executive vice president.

**M. A. GRISHAM,** Abilene, Texas, oil operator with holdings in West and West Central Texas districts, suffered second-degree burns July 18 when bed clothing in his hotel room at Midland accidently caught fire.

**CON MILLAND** has been transferred to Reed City, Michigan, from the Southwest by Olson Drilling Company to superintend Michigan contract rotary drilling.

**W. P. WICK,** 64, North Texas operator, died July 20 at Wichita Falls, where he had resided for 21 years.

**W. C. WHALEY,** vice president of Barnsdall Oil Company, has been elected president of the California Petroleum Safety Board, succeeding L. A. Cranson, vice president of Honolulu Oil Corporation, who will continue to serve as a vice president.

In addition to Cranson, vice presidents elected were L. L. Aubert, Bankline Oil Company, and A. S. Hayes, Bell & Loffland Drilling Company. R. W. Metcalf, Signal Oil Company, is treasurer.

The board is a group of oil companies who organized four years ago to establish a joint safety program for employes. Under the direction of A. J. Martinson since its inception, it has been credited with effective work in reducing accident frequencies among employes of member companies.

**JOE H. RUSSELL,** assistant to the vice-president of Gulf Oil Corporation, Houston, has been named secretary of the production group of District 3 Advisory Committee to the Petroleum Coordinator, of which George A. Hill, Jr., president of Houston Oil Company of Texas, Houston, is chairman. Russell entered the oil industry in 1920 as an electrical engineer with Gulf Production Company. He was made chief of production engineering a year later, assistant superintendent of production in the Texas and Louisiana coastal district in 1923, and assistant to the vice president in charge of production and engineering operations of Gulf companies in Texas, Louisiana and Arkansas in 1931.

T. E. Swigart, president of Shell Pipe Line Company, Houston, has been named secretary of the district's transportation group, of which Harry C. Wiess, president of Humble Oil & Refining Company, Houston, is chairman.

C. B. Barrett, sales manager of The Texas Company, Houston, is secretary of the district's marketing group, headed by Roy B. Jones, president of Panhandle Producing & Refining Company, Wichita Falls.

**PAUL T. GRAFF,** graduate of Harvard Engineering School, has joined The Foxboro Company, Foxboro, Massachusetts, as sales engineer specializing in control instrumentation. He will make his headquarters at the company's main office.

**L. L. HORCHITZ,** Los Angeles district manager for The B. F. Goodrich Company's mechanical goods division, has been named manager of a new California district embracing both Los Angeles and San Francisco districts, with district headquarters at Los Angeles. H. A. Schultz is branch manager at San Francisco. C. M. Christensen has been named manager of the Denver district, succeeding Max Schmidt, who remains on the district staff in a advisory capacity.

**RUSSELL G. DAVIS** has been named manager of the commercial gear plant of Foote Bros. Gear & Machine Corporation, Chicago, it was announced by W. A. Barr, company president. Davis, a 1921 mechanical engineering graduate of the University of Wisconsin, entered the mechanical power transmission industry as a student apprentice with Chain Belt Company, Milwaukee, and successively held positions as general foreman of the chain

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# MEN IN THE INDUSTRY'S NEWS

**Representatives of Pittsburgh Equitable Meter Company held a series of sales conferences during a recent trade convention held in Toronto, Canada. Shown, in the first row, are P. R. Carlon, A. L. Fritchey, W. A. Wood, A. J. Kerr, C. R. Zeskey, C. F. Thomas, W. F. Rockwell, A. E. Higgins, G. E. Gleeson, N. J. Kenny, M. J. Harper, A. R. Whittaker and W. F. Parker. Second row, H. L. McLaughlin, Daniel Gannon, W. L. Herron, T. R. Finley, F. W. Hartman, F. R. McDonald, Z. A. Stanfield, F. A. Lucas, A. B. Crossman, C. C. Moore, W. C. Noyes, E. C. Hidlay, D. D. Foster, John McKague and E. P. Lufkin. Third row, F. C. Taylor, R. S. Reed, Jr., George Bender, N. Stuart Mills, Fred Simpson, Ross Burns, L. A. Dixon, R. H. Smith, J. W. Fleet, V. H. McClure and J. N. Kint.**

division, southwestern division manager at Houston, Chicago district manager, and assistant to the sales manager of the chain division.

**R. M. CARTER,** with Atlas Supply Company, Muskogee, Oklahoma, since 1929, has been named Illinois district manager with headquarters at Grayville, Illinois, it was announced by J. R. Brooks, vice president and general manager. Carter previously served in the Seminole, Longview, Greggton, Ada and Wichita Falls areas.

Carl E. Miles has been named store manager at Grayville, succeeding E. L. Chavellier, who has been transferred to Evansville, Indiana. A. J. Hammett has been appointed store manager at Salem, Illinois, succeeding Roy Cox, resigned. Ed. Robertson continues as division manager for Illinois, Indiana and Kansas.

## *Stripper Well Association Meet Set for October 20*

The annual meeting of the National Stripper Well Association will be held at the Mayo Hotel, Tulsa, Monday, October 20, it was announced last week by Charles P. McGaha, Wichita Falls, association president.

The date coincides with the opening day of the Independent Petroleum Association of America's annual meeting, but does not conflict as the latter organization will devote that day to committee meetings.

Officers of the stripper group in addition to McGaha, are H. B. Fell, Ardmore, Oklahoma, executive vice president; Howard J. Whitehill, Tulsa, secretary, and the following vice president: Guy T. Berry, Independence, Kansas; Richard Fenton, Los Angeles; Wirt Franklin, Ardmore; A. H. Ledbetter, Mount Pleasant, Michigan; Harry Leonard, Roswell, New Mexico; Lee Mulvihill, Robinson, Illinois; N. W. Shiarella, Owensboro, Kentucky, and Ralph T. Zook, Bradford, Pennsylvania.


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Production, Pipe Line and Refinery men have already learned that PAGE HI-TENSILE **'C'** ELECTRODES have qualities that are important to them.

**AMERICAN CHAIN & CABLE COMPANY, Inc.**

# Squeaks from the Bull Wheel

**More Profitable**

"I wish I had the money that was paid for all those cars going by."

"I wish I had the money that is still due on them."

**Reason Enough**

Describing the unusual features of various animals, the teacher dealt with the camel's hump, the giraffe's neck, and the elephant's trunk. Then she began asking questions.

"Now, Tommy," she asked one youngster, why couldn't a giraffe come in at the door of this room?"

"Because it couldn't turn the door handle, miss."

**Two Can Play**

At Perth, in Scotland, a boy was waiting at a market to be hired, when a farmer accosted him and inquired if he had a written character.

The lad replied that he had, but had left it at home.

"Bring it next Friday," said the farmer, "and meet me here."

In the interval the canny young Scot took it upon himself to investigate his prospective employer.

When the two met again, the farmer inquired, "Weel, my lad, ha'e you got your character?"

"Na," was the reply, "but I've gotten yours, an' I'm na' comin'!"

**Old Soldier**

"What is the first thing you do when cleaning a riffle?"

"Look at the number."

"And what has that got to do with it?"

"To make sure that I'm cleaning my own gun."

**Advise**

"Believe me, if my wife scolds me for coming home late, I'm going to tell her a thing or two."

"Don't do it! Tell her one thing, and stick to it."

**Inquisitive!**

"That woman always asks me the price of anything new I'm wearing. Rather cheek, don't you think?"

"I do. What's she been trying to find out now?"

"She's just asked me how much I paid for this hat!"

"What an inquisitive creature she must be. How much did it really cost you, dear?"

**Not Ready to Eat It**

"So you complain of finding sand in your soup?"

"Yes, sir."

"Did you join the Army to serve your country, or complain about the soup,"

"To serve my country, sir—not to eat it."

**Making It Authentic**

"Hasn't your wife been wearing a strange expression lately?"

"Yes, I believe she's trying hard to look like her latest photograph."

**Garden Hints**

"How did your tulip beds come up this spring?"

"With the assistance of Smith's Airdale."

**Just as Easy**

The new maid had worked on the Continent, and consequently felt herself a cut above the other servants. One day she was telling some of her experiences.

"How do the foreign dishes compare with English ones?" asked the cook.

"Oh, replied the maid, airly, "they break just the same."

**Wise Lad**

The teacher was explaining the difference between the stately rose and the modest violet.

"You see, children," she said, "a beautiful, well-dressed woman walks along the street, but she is proud and does not greet anybody—that is the rose. But behind her comes a small creature with bowed head—"

"Yes, I know," Tommy interrupted. "That's her husband."

**Must Be a Scot**

"Whom are they operating on today?"

"A fellow who had a golf ball knocked down his throat at the links."

"And who is the man waiting so nervously in the hall? A relative?"

"No, that's the golfer. He's waiting for his ball."


*For Sale* THE YACHT **"DOODEN"**

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**DESCRIPTION:** Twin Screw. Length 62 ft. 4 inches, beam 11 ft. 6 inches, 2 large staterooms, extra large wheelhouse with lounging room, large galley with butane gas for cooking and heating, hot and cold water all over ship, large Frigidaire, shower bath, 4 toilets, crew quarters, lots of open deck space, 2 navy type anchors dropping from nose of vessel and operated by electric hoist, 32 volt Kohler lighting plant. Powered with two 165 horsepower Lycomings. A two inch Oregon Fir bottom.

**THIS VESSEL** will stand minute inspection in every respect. It is in perfect condition, ready and able to go for a long cruise. Reason for selling: owner does not have time to use it and has a cruiser also. Within the past two weeks a marine surveyor appraised this ship at $25,000. It can be bought for $16,000. Now in Houston waters. Shown only by appointment. Call Preston 8171, or write N. L. Naylor, 545 M. & M. Bldg., Houston.

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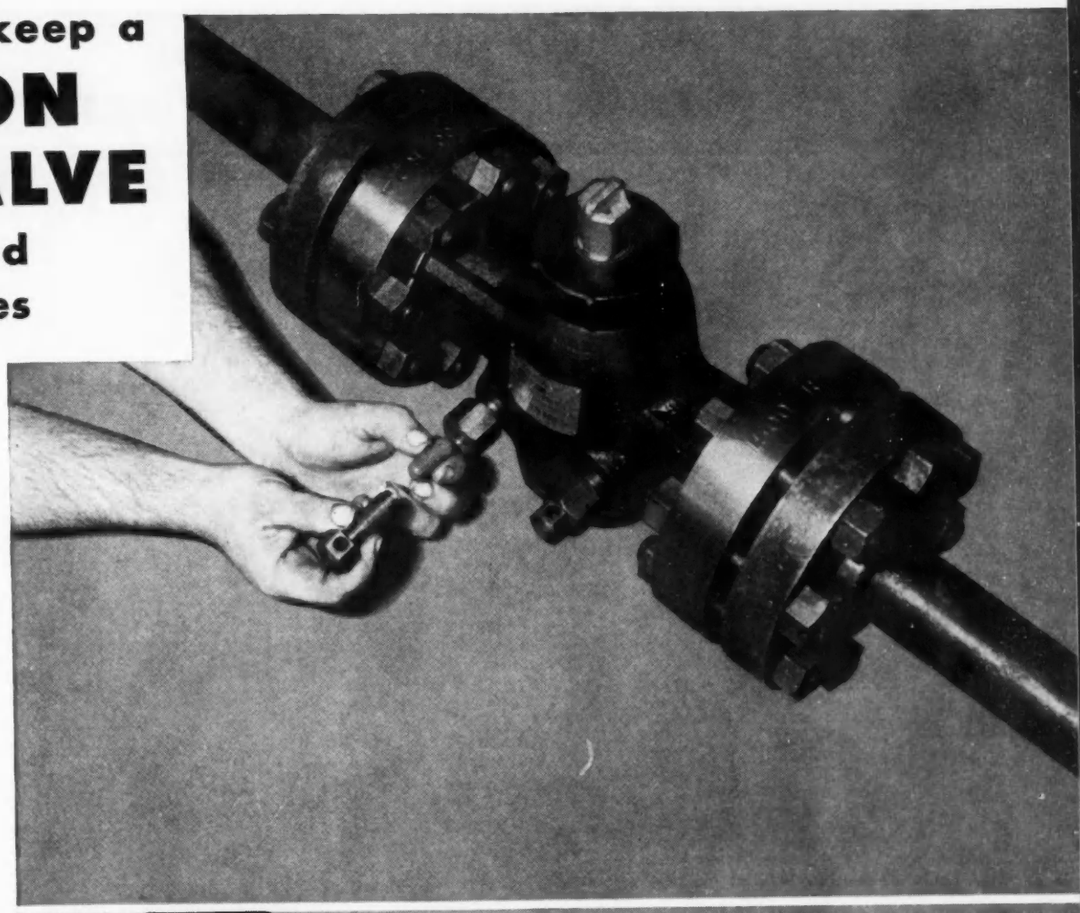

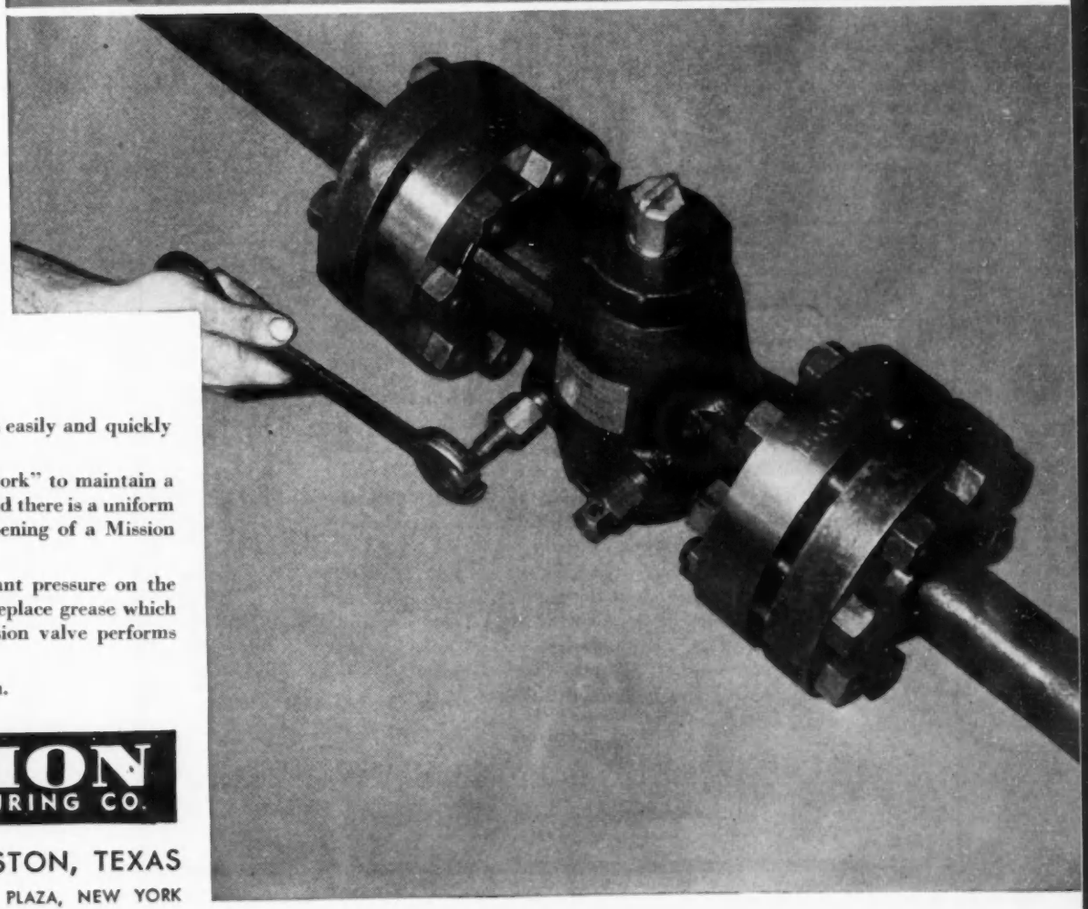

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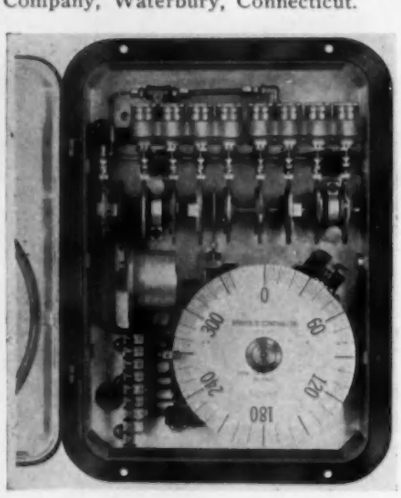
# NOTES FOR THE Equipment Buyer and User

## Controller

**THE BRISTOL COMPANY**

A multiple-cam time-cycle controller for timing mechanical operations in industrial processes, designated Model A-118 Impulse-Sequence Cycle Controller, has been announced by The Bristol Company, Waterbury, Connecticut.



**Bristol Company Model A-118 Controller**

The instrument is designed for processes where a number of factors must be accurately timed according to a fixed program.

In operation, it engages the necessary mechanical, electrical or pneumatic devices for automatically carrying out the intended schedule. Time measurement and pilot valve operation are handled by separate mechanisms. Separation of the two basic functions provided a design giving accurate timing of factors under control, high speed and torque for pilot-valve operation, and flexibility of application.

Timing is accomplished by a Telechron-driven aluminum disc on which is printed a 25-inch time scale. The desired schedule of operations is incorporated into the controller by punching holes wtih an ordinary ticket punch on the time scale. Location of the holes determines the time of operation of the cam mechanism. Discs for new cycles or schedules of operation can be easily made.

Cams are individually adjustable and their setting does not require fine adjustment for accurate results. Any sequence of operation can be obtained.

Controllers are drilled for eight cams and pilot valves. Additional cams and pilot valves up to eight can be added by the user to controllers originally made up with less than eight cams.

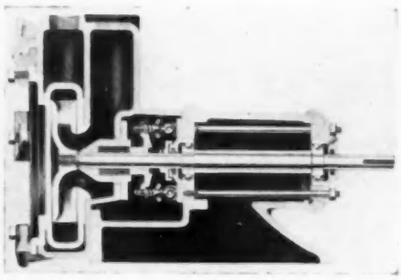
### Accident Data

American Petroleum Institute's Department of Accident Prevention, 50 West 50th Street, New York, has issued a Summary of Motor-Vehicle Accidents in the Petroleum Industry for 1940. It summarizes experiences of 145 companies operating 53,228 motor vehicles, and shows that motor-vehicle accidents among oil-company drivers increased 8.6 percent in 1940 over the previous year. The increase was attributed to defense activities and increased employment which have brought about an unusual increase in number of cars on streets and highways, in miles traveled, and in number of new and inexperienced drivers.

## Pump

**AMERICAN MANGANESE STEEL DIVISION**

Two horizontal-shaft pumps, Types A and T, similar in design except that Type T has intake opening horizontal and concentric with shaft, have been announced by American Manganese Steel Division of The American Brake Shoe & Foundry Company, Chicago Heights, Illinois.



**American Manganese Type A Pump**

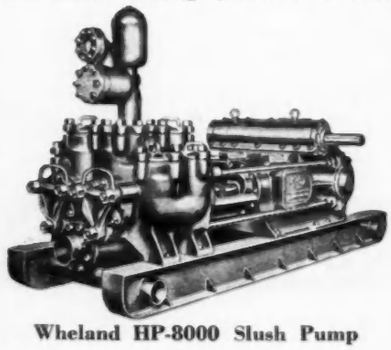
They are available in sizes from ¼-inch to six inches, in capacities up to 1400 gallons-per-minute, and for operating heads up to 100 feet. They feature clamp-bolt construction of water end, a bearing arrangement designed to provide proper alignment, sealed bearings, a readily accessible stuffing box, and self-priming. Impellers available are 2-, 4- and 6-vane shrouded type, and 4-vane open type.

Construction materials available, with choice determined by extent of abrasion or corrosion under which the pump will operate, include manganese steel, chromium-nickel alloys, white iron, nickel-iron, brass, bronze and other cuprous alloys.

## Slush Pump

**THE WHELAND COMPANY**

The Wheland Company, Chattanooga, Tennessee, has announced a medium duplex slush pump in its HP-8000 model for average depth drilling. The 7 x 12-inch pump is rated to transmit 150-horsepower with a peak pressure capacity of 25 percent overload. Discharge ports are tested hydrostatically 3000 pounds; suction ports tested hydrostatically 1500 pounds; and maximum recommended working pressure is 1800



**Wheland HP-8000 Slush Pump**


## Representatives for Manufacturers Wanted!

**From time to time THE OIL WEEKLY is requested by manufacturers to suggest possible sales representatives. Sometimes the manufacturer is looking for a sales company to represent it in a particular area. Occasionally the manufacturer desires that we suggest a salesman for an area.**

**To handle these requests, we maintain, as a service to both manufacturers and representatives, what we call a "Representation File." Due to many changes in representatives, it is necessary to bring the information up-to-date every once in awhile.**

**If you are handling a line of oil country equipment and desire to add to that line, we shall be pleased, upon application, to provide you with one of our standard forms to be filled out and placed in this "Representation File." Even though at the present time you have all of the lines you want, it would be well to send for one of the forms so that the records will include full information on your organization.**

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***Attention — Service Department***

pounds. Maximum horsepower for electric motor drive is 150; for combustion engine drive 200 horsepower.

The pump is equipped with Timken bearings, fully enclosed oil bath power end, and patented water cylinder head and liner packing assembly. The end packed liners, adjusted from outside the fluid end, is a patented feature. Gear and pinion are of tool steel; teeth are cut and hardened. Feather-edged rubber sealed valves are patented. Stub end rods are fitted with mud baffles; water rods can be replaced without removing power end covers. Complete pinion shaft assembly is reversible. One-piece crankshaft is mounted on Timken bearings, while the forged steel pinion shaft is mounted on Timken and American bearings.

### Frank Purdum Company Named ELI Manufacturer's Agent

Frank Purdum Company, Tulsa and Houston, has been appointed manufacturer's agent by Engineering Laboratories, Inc., with exclusive sales rights for pressure-gauge equipment in Texas and Louisiana, and with non-exclusive rights to sell other engineering laboratories' equipment and products in those and other states.

Frank Purdum, petroleum engineer, has been active in the oil fields of Wyoming, Colorado,. Oklahoma and Texas since 1917. During 1924-25, he was with Vacuum Oil Company in Poland. A graduate of Colorado School of Mines, he has been active in sales work for Engineering Laboratories for a number of years.

Frank Purdum Company has offices at 1400 South Boston, Tulsa, and at 2949 Jensen Drive, Houston.

### Pittsburgh Equitable Acquires Larsson Machine Tool Works

Pittsburgh Equitable Meter Company, Pittsburgh, through President W. F. Rockwell, has announced acquisition of assets of Larsson achine Tool Works, Berkeley, California.

The acquisition gives the Pittsburgh company a self-contained tool plant fully equipped to manufacture dies, tools and special equipment. The present business of Larsson Machine Company will be continued, and in addition the facilities will be used for experimental work on new products under development.

### Belt Lacing

The Bristol Company Mill Supply Division, Waterbury, Connecticut, has issued Bulletin 731, describing steel belt lacing for joining or repairing machine and conveyor belts. It contains information on typical applications, types and sizes available, as well as prices applying. It illustrates how this type of belt lacing is applied.

### Hughes Tool National Defense Ads Available for Framing

On the front cover of this issue of THE OIL WEEKLY appears the first of a series of advertisements by Hughes Tool Company, Houston, that is to feature multiple natural color photographs of mechanized national defense units of the United States Army and Navy.

The current advertisement shows a sleek, low-wing monoplane that is one of the newest Army primary trainers. An early advertisement will picture a Navy scout and dive bomber designed for aircraft-carrier service. The early portion of the series will feature various types of Army and Navy airplanes, to be followed with similar treatment on naval craft and motorized land units.

The purpose of the series is to emphasize the importance of national defense units which depend on oil to "keep 'em going."

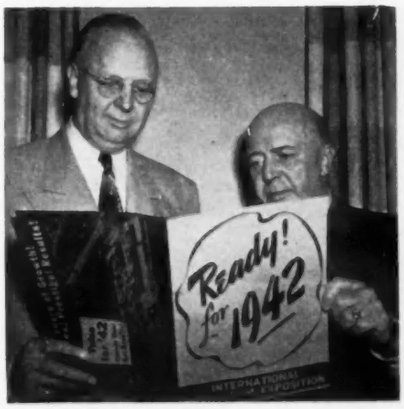
Full color copies of all the photographs shown in this series of advertisements suitable for framing or scrapbook will be furnished by Hughes Tool Company upon request.

### Name McJunkin Supply Bucyrus-Erie Distributor

McJunkin Supply Company, Charleston, West Virginia, has been appointed distributor of oil well spudders of Bucyrus-Erie Company for the West Virginia-Eastern Kentucky territory. Main offices of the distributorship are located in Charleston, with stores at Grantsville and Hamlin, West Virginia, and at Allen, Kentucky.

### Feed Water Control

Cochrane Corporation, 17 Street and Allegheny Avenue, Philadelphia, has issued a revised edition of its 8-page booklet on "Feed Water Chemistry." It includes fundamental reactions involved in water softening, and is designed to be of aid in interpretation of a water analysis.




**G. A. Thompson, vice president of Bethlehem Supply Company, Tulsa, left, with William B. Way, general manager of the International Petroleum Exposition, look over folder after Thompson signed contract making his firm the one-hundredth exhibitor for the 1942 show.**


REGISTERED PROFESSIONAL ENGINEERS
Air · Gas · Water
REPRESSURING
RECYCLING · PRESSURE MAINTENANCE
INSTALLATION · OPERATION
PETROLEUM ENGINEER
JO H CABLE
WICHITA FALLS TEXAS
GAS MEASUREMENT · PERMEABILITY
COMPRESSOR PLANTS · POROSITY
BOTTOM HOLE PRESSURE · SATURATION
GAS OIL RATIOS · RECOVERABLE OIL
CONTROL OF FLOW THRU FORMATION
REGISTERED PROFESSIONAL ENGINEERS

SAVE TIME AND MONEY with Red-Rex QUICK-JOINT PIPE UNIONS
QUICK SAFE ECONOMICAL
NO PARTS TO GET LOST AND CAUSE DELAY
OIL CITY BRASS WORKS
FOUNDERS · MANUFACTURERS · MACHINISTS
Beaumont, Texas, U. S. A.

The BUCK CLAMP Is Designed to Fit the Lay of the Line . . . Eliminating Kinking
Buck Clamp offers numerous advantages over conventional clamps. Its clamping surfaces are scientifically formed to fit the lay of the wire and this positively prevents kinking the line. It provides greater gripping area, higher clamping strength, and employs only one bolt. It is faster, safer and more dependable. Write for full details and prices. Buy Buck Clamp from your Supply Store.
BUCK CLAMP CO.
3714 NAVIGATION BLVD.
HOUSTON, TEXAS
Export: WKM Co., Inc.,
74 Trinity Place, N.Y.C.

Clarence L. Boyd Co., Inc.
International Tractors
International Power Units
Bucyrus-Erie Equipment
J. D. Adams Road Machinery
Koehring
Hauling Equipment Cement Mixers
Shovels
Pipe Line Equipment
Trackson Pipe Layers
Pipe Line Supplies
Equipment for lease or rent
Clarence L. Boyd Co., Inc.
Tulsa, 3rd & Frankfort. Ph. 8191. L.D. 745
Oklahoma City, 17-19 West Pott
Guthrie, 501 W. Oklahoma

# SMOOTHEST RIDE DISCOVERED

## SUPER STREAMLINER

*265 Miles — 265 Minutes*

***BETWEEN HOUSTON AND DALLAS***

**You'll discover a new thrill in smoothness when you ride the *Sunbeam*, the *big, roomy, super* streamliner! It sails over the super rails with unmatched smoothness! No jostle! No jerking! You'll discover other *extras*, too: extra-wide windows, extra-large chairs, extra room, extra-large dressing rooms, and a full-size dining car serving delicious, popular-priced *meals select*. After your first ride, you'll always choose the *Sunbeam*, the *super* streamliner!**

SOUTHERN PACIFIC LINES

**Lv. HOUSTON.....4:45 P.M.**

Connections at Dallas for West Texas, Oklahoma, Arkansas, Colorado, Kansas City, St. Louis.

COOL

**Lv. DALLAS.....5:00 P.M.**

Connections at Houston for Beaumont, New Orleans, East, California, Corpus Christi, Rio Grande Valley.

***2 Other Trains Between Houston-Dallas***

*Hustler*—Morning streamlined service.

*Owl*—Fast overnight service. Double bedroom sleeping car (between Galveston-Houston-Dallas) standard sleepers, coaches. Through sleeper between Houston-Ft. Worth.

**COSTS LITTLE AS**

**$4 $6**

**ONE-WAY ROUND-TRIP**

**HOUSTON TO DALLAS**

**—good in chair cars. Fares in parlor and Pullman cars are also low-priced.**

**Enjoy the privacy and luxury of the *double bedroom* sleeping car on the famed *Sunset Limited* from New Orleans to California, via Beaumont, Houston, San Antonio, El Paso.**

**LOW ROUND-TRIP FARES TO**

***AMERICA'S VACATIONLANDS***

# Southern Pacific

J. T. Monroe, Passenger Traffic Manager,
Southern Pacific Bldg., Houston, Texas

**SHIP VIA SP — FREE PICK-UP AND DELIVERY SERVICE**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* Indicates that detailed information on the manufacturer's products or services may be found in the 1941 edition of The Composite Catalog of Oil Field & Pipe Line Equipment.